SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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2125.—VOL. XLVI LONDON, SATURDAY, MAY 13, 1876. PRICE (WITH THE JOURNAL) SIXPENCE. PER ANNUM, BY POST, £1 4s.

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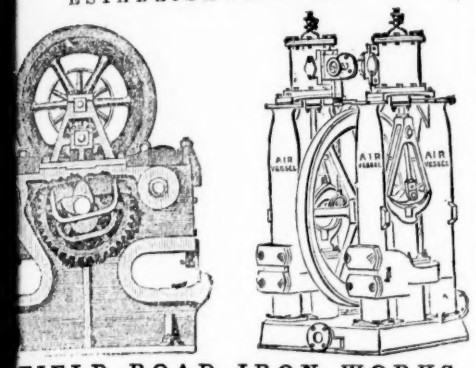

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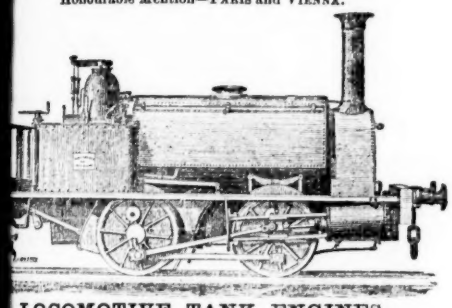

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Machines working, apply as above.

PARIS, BRONZE MEDAL, 1867.

ORDER OF THE CROWN OF PRUSSIA.

FALMOUTH, SILVER MEDAL, 1867.

A DIPLOMA—HIGHEST OF ALL AWARDS—given by the Geographical Congress, Paris, 1875—M. Favre, Contractor, having exhibited the McKean Drill alone as the MODEL BORING MACHINE for the ST. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

THE McKEAN ROCK DRILLS

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24·90, 27·60, 24·80, 26·10, 28·30, 27·10, 28·40, 28·70 metres. Total advance of south heading during January was 121·30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere (7½ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUNNEL: and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

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2.—ONLY ABOUT ONE-FOURTH OF THE SPACE USUALLY OCCUPIED BY DRESSING-FLOORS IS REQUIRED.

3.—FROM 60 TO 70 PER CENT. OF THE LABOUR IN DRESSING, AND FROM 5 TO 10 PER CENT. OF ORE OTHERWISE LOST, IS SAVED.

4.—THEY ARE THE ONLY MACHINES THAT MAKE THE ORE CLEAN FOR MARKET AT ONE OPERATION.

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WASTE HEAPS, consisting of refuse chats and skimpings of a former washing, containing a mixture of lead, blende, and sulphur, DRESSED TO A PROFIT.

Mr. BAINBRIDGE, C.E., of the London Company's Mines, Middleton-in-Teesdale, by Darlington, writing on the 20th March, 1876, says—"The yearly profit on our Nanthead waste heaps amounted last year to £600, besides the machinery being occupied for some months in dressing ore-stuff from the mines. Of course, if it had been wholly engaged in dressing wastes our returns would have been greater; but it is giving us every satisfaction, and bringing the waste heaps into profitable use, which would otherwise remain dormant."

Mr. T. B. STEWART, Manager of the Duke of Buccleuch's Mines, Wanlockhead, Abington, N.B., writing on 20th March, 1876, says—"I have much pleasure in stating that a full and superior set of your Ore Dressing Machinery has been at work at these mines for fully a month, and each day as the moving parts become smoother, and those in charge understand the working of the machinery better, it gives increasing satisfaction, the ore being dressed more quickly, cheaply, and satisfactorily than by any other method."

Mr. BAINBRIDGE, speaking of machinery supplied Colberry Mines, says—"Your machinery saves fully one-half on old wages, and vastly more on the wages we have now to pay. Over and above the saving in cost is the saving in ore, which is not much short of 10 per cent."

GREENSIDE MINE COMPANY, Patterdale, near Penrith, say—"The separation which they make is complete."

Mr. MONTAGUE BEALE says—"It will separate ore, however close the mechanical mixture, in such a way as no other machines can do."

Mr. C. DODSWORTH says—"It is the very best for the purpose, and will do for any kind of metallic ores—the very thing so long needed for dressing-floors."

Drawings, specifications, and estimates will be forwarded on application to—
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The SIMPLEST, CHEAPEST, and BEST Machine in the World for SINKING, MINING, and QUARRYING,

It has been selected by the Admiralty for their works, and is extensively used at the principal Mines, Collieries, and Quarries of Great Britain, and the Continent of Europe.

"To this invention, which appears to possess several advantages over the machines previously exhibited at Falmouth, the Judges are *unanimous* in awarding a first-class silver medal" (the highest award).—*Report of the Judges at the Royal Cornwall Polytechnic Society's Exhibition*, 1873.

"The boring machine works splendidly."—W. TORRANCE: *Mid-Calder.*

"For simplicity, compactness, and performance of work, your drill excels all others."—JOHN MAIN: *Crossfield Ironworks.*

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"The simplest and best boring machine."—Capt. WASLEY'S letter to the *Mining Journal*, Oct. 18, 1873.

"It gives every satisfaction."—W. E. WALKER: *Lord Leconfield's Iron Mines.*

"The rock-drill I bought of you seven months ago has given me entire satisfaction, and I am convinced that the 'Kainotomon' is the best rock-drill in the market."—P. MCGINNIS: *Strabane.*

"I am quite satisfied with the working of it. For sinking pits it is a first-rate invention; I can do as much boring with it myself as six men can do by hand." S. JENKINS: *Abertillery.*

The advantages over other Rock-boring Machines claimed for the "Kainotomon" are—

1.—It is much shorter.
2.—It is much lighter, and more readily removed from place to place.
3.—It requires the turning of ONLY ONE, instead of a number, of set screws, to fix it in position at any angle.
4.—It may be fed 3 inches out of stroke, without stopping the working of the drill, *an invaluable advantage.*
5.—It is not liable to derangement.
6.—It has not one-third the number of parts in its construction.
7.—All stuffing-boxes and parts requiring adjustment are dispensed with.
8.—It is so simple in its construction that any ordinary labourer or miner can drive it, simply having to turn on the motive power and feed the drill.
9.—The rotation is compulsory, and regular.
10.—40 lbs. pressure only is required to work it.
11.—A saving of over 50 per cent. in iron and flexible piping.

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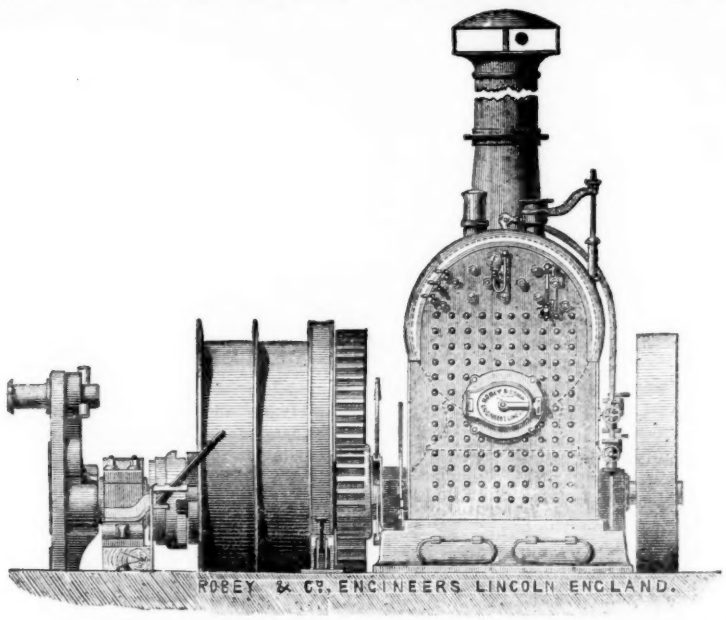
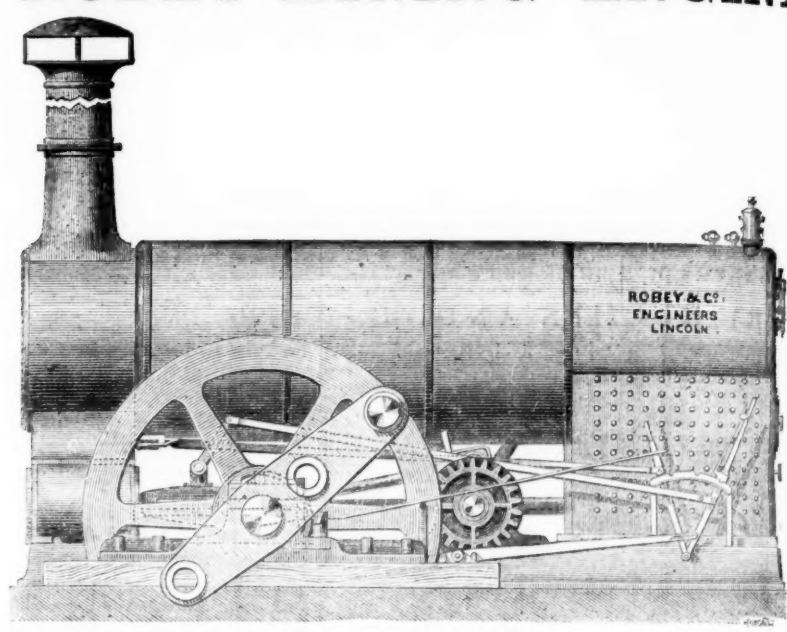
Patent No. 4136 - - - - - - Dated 16th December, 1873.
Patent No. 4150 - - - - - - Dated 17th December, 1873.

THE PATENT IMPROVED ROBEY MINING ENGINE.





Some of the advantages of the New Patent Engine are as follows:

Small first cost.
Saving of time and expense in erecting.
Ease, safety, and economy in working.
Great saving in fuel.

This New Patent Engine is free from all the objections that can be urged against using the old style of Semi-Portable Engine for permanent work, because it possesses the rigidity and durability of the Horizontal Engine, and at the same time retains the advantages of the Semi-Portable, in saving time and expense in fixing.

This New Engine is admirably adapted for driving Flour Mills, Saw Mills, Brick Machines, Pumps, Ore Crushers, Stone Breakers, and all descriptions of Fixed Machinery.

ENGINES UP TO 200 EFFECTIVE HORSE-POWER ALWAYS IN PROGRESS.

Prices and full particulars on application to the sole manufacturers:—

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INCREASED VALUE OF WATER POWER.

THE EXTRAORDINARY ADVANCE in the PRICE of COALS has DIRECTED more ATTENTION to WATER POWER, and to the BEST MANNER of APPLYING IT. For many years it has been, to a great extent, neglected and undervalued. One great objection to it has been the variable nature of most streams in these countries, having abundance of water during the winter half-year, and very little in the dry season. No kind of wheel hitherto known was able to give the proper proportion of power from the smaller quantities of water, so that it became the practice very generally to use steam entirely during the summer half of the year, letting the water go to waste. This is now completely prevented, and the full available power can be obtained from a stream at every season by using

Mac Adam's Variable Turbine.

This wheel (which is now largely in use in England, Scotland, and Ireland) is the only one yet invented which gives proportionate power from both large and small quantities of water. It can be made for using a large winter supply, and yet work with equal efficiency through all variations of quantity down to a fifth, or even less if required. It is easily coupled to a steam-engine, and, in this way always assists it by whatever amount of power the water is capable of giving, and, therefore, saves so much fuel.

This Turbine is applicable to all heights of fall. It works immersed in the tail-water, so that no part of the fall is lost, and the motion of the wheel is not affected by floods or back-water.

References to places where it is at work will be given on application to the makers,—

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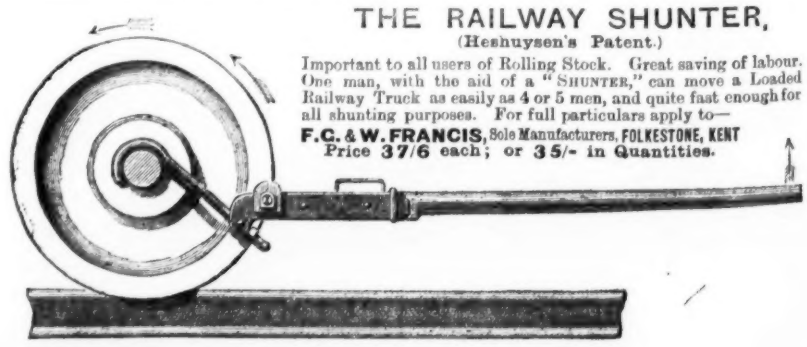
THE RAILWAY SHUNTER,

(Heshuysen's Patent.)



Important to all users of Rolling Stock. Great saving of labour. One man, with the aid of a "SHUNTER," can move a Loaded Railway Truck as easily as 4 or 5 men, and quite fast enough for all shunting purposes. For full particulars apply to—

F.C. & W. FRANCIS, Sole Manufacturers, FOLKESTONE, KENT
Price 37/6 each; or 35/- in Quantities.

Original Correspondence.

MINING PROGRESS IN NOVA SCOTIA—No. III.

The mining department has been vigorously pushed on under the charge of the managers, Messrs. Bryant, and some 300 miners on an average were employed, of whom 200 were Cornishmen, and of them 130 have been specially imported by the company; some 16 adits are in course of being driven at the principal points along the line of the deposits. At Cook's Brook one has been driven to the west 580 feet, and it has yet to go 350 feet before it is expected to cut the ore bed at a depth of 150 feet from the surface. Another has been driven in the east bank 585 ft., and has yet to go 230 ft. more to reach the deposit of ore. At Slack's Brook an adit has been driven 980 ft., and it is shortly expected to strike the ore. A surface level (No. 2) at Martin's Brook proved the existence of much ore in ground supposed to be nearly worked out. No. 7, the lowest adit of all, has been driven 1290 ft. On the east side of Londonderry the mining operations have been confined to Folly Mountain, where five adits are in course of being driven at various depths, for draining the extensive ore deposits already discovered in that locality. The deepest striking the ore ground is 250 ft. from the surface. The total quantity of ore in sight is variously estimated up to 300,000 tons. To convey the ore from the west mines at Martin's Brook to the furnaces at Londonderry, a tramway 3 ft. gauge, 2½ miles long, has been built and laid with steel rails; and a branch of the ordinary 4 ft. 8½ in. gauge, 5 miles long, connects the east mines at the base of Folly Mountain, with the Intercolonial Railway at De Bert Station, and so with the works at Londonderry. Some of the ores from lands at Cleveland, on the west side of the Nictaux river, Annapolis county, have been analysed by Dr. Walz, of New York, and Dr. Brown, of Philadelphia, with the following results:—

ANALYSES OF CLEVELAND ORE.

	Magnetic Black Oxide.				Red Oxide.			
Metallic iron	54·22	59·11	53·14		58·05		57·93	
Silica	14·97	11·64	—		—		17·21	
Sulphur	·069	·09	—		—		·035	
Phosphorus	·36	·17	·173		·193		·16	
Alumina	5·53	—	—		—		—	
Lime	2·70	—	—		—		—	
Magnesia	·41	—	—		—		—	
Oxide of manganese	·86	—	—		—		—	

At Springville, on the east river of Pictou, further explorations on the iron deposits of that section were made. The areas, previously held under licenses, were leased, surveyed, and the corners marked by stone posts sunk 4 ft. in the ground. The surveys also proved the relative position of the areas to one another. Mr. Edwin Gilpin conducted the explorations, and he reports that, on license to work No. 11, which lies to the south of the Big Brook, near the Pictou branch of the railway, the vein of brown ore on that area was proved to be 3 ft. in thickness, and that its extension was followed one-third of a mile to the westward. While prospecting severals beds of drift brown ore were intersected, which Mr. Gilpin thinks could be profitably worked. On license to work No. 7 a bed of red hematite 12 ft. wide was discovered, and on lease No. 28, which is known as the Ross area, the outcrop of a bed of red hematite was found. Other indications of a bed of red hematite appeared on license No. 102. Specimens of the various ores, &c., from this locality have been collected for the approaching Philadelphia Exhibition. A limestone found in the neighbourhood, it is thought, will be suitable for iron smelting.

The Dominion of Canada imported during the fiscal year ended June 30, 1875, pig-iron to the value of $1,229,989, and railway bars, fish-plates, frogs, &c., to the value of $5,289,454; and during the following three months pig-iron to the value of $237,103. These figures show the large demand in the Dominion for pig-iron and wrought bars of iron and steel, and to some degree the extent of the market in which home manufacturers may expect to compete.

MISCELLANEOUS INTERESTS.

COKE.—A successful trial of Albion Mines coke in the blast-furnace at Londonderry, and the prospect of a large demand for the article when the new furnaces are completed, has aroused the attention of the coal owners of Cumberland and Pictou. Some coke was made at Spring Hill, and an analysis of it is given; but as it was made of unwashed slack in open heaps, a satisfactory result was not to be expected. An experienced coke burner has been brought out to the Albion Mines from England, to superintend the ovens, and the quality under his management is said to have improved. The analysis shows it to contain very little sulphur, and as it is hard and dense it is an excellent coke. New ovens have been built, the set of 8 increased to 20, and a second set of 20 has been finished. The ovens are the "bee-hive," 11 ft. in diameter and 8 ft. high, placed in two rows of 10 each, back to back, with railway tracks running over the tops, that the ovens may be fed direct from the wagons. The 40 ovens will make about 240 tons of coke per week.

ANALYSES OF COKE.

	Albion Mines.	Spring Hill.
Carbon	83·88	81·92
Sulphur	·62	1·52
Ash	14·52	12·90
Moisture	·98	3·66
Total	100·00	100·00

Hitherto the local demand for coke has been small, and it has increased but slowly. According to the returns the following quantities were made at the several collieries mentioned:—

Blockhouse	Tons	14
Sydney		65
Spring Hill		79
Albion Mines		1065 = 1223

LEAD MINING.—The vein near Port Hood, C.B., mentioned in the report for 1874 as containing galena, is of no commercial value. It is, however, interesting on account of its position, being in the sandstones of the coal measures between two seams of coal. A vein which promises better has been found near Caledonia, in Gaysborough county. Beyond exposing the outcrop no work has been done. It is said to be from 8 to 15 in. wide where opened, and to contain bands of pure galena 2 to 3 in. wide.

COPPER.—Spasmodic efforts have for nearly 40 years been made to find the vein from which the boulders of copper ore came which from time to time were found in the soil near Polson's Lake, Antigonish county. At last a vein containing copper pyrites has been discovered, but as the explorers found that their opening was not on their own ground, no further work was done to prove the vein, which seems to have a course nearly east and west, and to dip north with the containing slates. The vein was found by sinking through the soil 16 ft. to the bed rock, over which a drift was driven that laid bare the vein. The vein is 6 ft. wide where exposed, and appeared to consist chiefly of spathose ore, spotted with copper pyrites. The explorer, Mr. McBain, who discovered the McBain seam, now worked at the Vale Colliery, doubts if he has found the main vein. His explorations to the east indicate, he thinks, an extension in that direction, but the fall rains prevented his further search. To the westward he found the ore bed, but not the vein, for there also his work was stopped by the wetness of the ground. The ore bed and accompanying slates are similar in appearance to the rocks at Londonderry in which the deposits of iron ore exist. The spathose ore associated with the copper pyrites at Polson's Lake are of the same age. Near Lochaber Lake he has found two cross veins showing copper pyrites, erupescite, and specular ore with quartz as a matrix.

FIRE-CLAY.—In the measures of the several coal fields there are numerous beds of fire-clay, a few of which have been partially tested, but no systematic search has yet been made. The analyses of three of these clays are given below:—

ANALYSES OF NOVA SCOTIAN FIRE CLAYS.

	Lingan.	Deep Seam.	Spring Hill.
Silica	55·20	51·15	50·47
Alumina	32·10	22·57	32·69
Iron oxides	1·87	6·48	8·01
Titanic acid	—	1·75	1·88
Lime	—	1·27	1·86
Magnesia	5·53	1·85	2·11
Alkalies	—	2·66	1·96
Combined water	5·30	4·23	1·03
Moisture	—	2·88	—
Carbonic acid	—	5·04	—
Organic matter	—	1·16	—

It will be noticed that the Nova Scotian clays contain a much larger percentage of alkalies, which are especially detrimental to the quality of a fire-clay, than the Scotch.

LIMESTONE.—Lime burning has been made a business of at the Marble Mountain and George's River, both on the Bras d'Or, Cape Breton. About 9250 barrels of lime were shipped in 1875 for Nova Scotia and the neighbouring provinces. The exports of limestone from Nova Scotia proper are mainly to Prince Edward Island. About 4800 tons were sent there to be burned as required in 1875, of which 760 tons were from Pugwash, and the remainder from the above-mentioned places in Cape Breton.

MARBLE.—The quarries at Marble Mountain have exposed immense beds of marble, but as yet little has been exported.

GYPSUM.—According to the Custom House Returns, the plaster shipped to the United States from Nova Scotia in 1875 amounted to 95,159 tons, of a declared value of $95,907.

FREESTONE.—The exportation of building stone was considerably reduced, and little work done at the quarries on the Gulf shore. At the Lower Cove quarries, at the head of the Bay of Fundy, a new mill, large enough to allow six gangs of saws to be worked in it, has been lately built. The inland quarry has been closed, and the old one on the south reef next the shore re-opened; the largest stone sent from these quarries was recently shipped to a mill at Waterville, in Maine; it measured 7 ft. 2 in. in diameter, 15 in. face, and weighed nearly 8000 lbs. With the increased facilities now enjoyed, it is expected that the business of these quarries will be largely extended, and a trade with Great Britain made remunerative.

BARYTES.—Although there are several localities where barytes of fair quality is found, it is alone mined at Five Islands. The quantity exported to the United States in 1875 was 175 tons, at $10 a ton.

The report, as will be perceived from the extracts we have been able to submit, is both descriptively and statistically much fuller than any previously issued by the department; it reflects much credit upon its author, and if judiciously distributed must greatly assist in making known the variety of mineral resources in Nova Scotia inviting capital and enterprise for their development.

THE AMMONIA PROCESS.

SIR,—I cannot but acknowledge the courteous tone of "Enquirer's" remarks and queries in last week's Journal, and with your permission I will endeavour to answer as clearly as possible the further questions put to me respecting the ammonia process. If I understand rightly, "Enquirer" wishes to know—1. If the gangue accompanying ores would not in some way interfere with the process. —2. If stuff carrying tin as well as copper and silver can be so treated as to secure all these metals?—3. Can silver-lead be treated?

With respect to the gangue, it has no influence whatever upon the process. Speaking generally the gangue is composed of aluminous, ferruginous, and silicious matter, all of which are insoluble in ammonia, and without action upon it, and, therefore, remain untouched when treated by this solvent. The copper and silver salts are as readily dissolved and separated from the gangue (or perhaps more so) when disseminated through a mass of stuff as in a purer form. Even if iron, alumina, copper, and silver were in one and the same solution—as sulphates for instance—excess of ammonia would separate the iron and alumina from the copper and silver by precipitating the two former, and retaining in solution the two latter. Provision is made in the patent for the concentration of the stuff to be treated by means of a tank-buddle, so as to separate and get rid of a very large percentage of worthless gangue at the outset.

With respect to stuff carrying tin as well as copper and silver, the tin oxide is not acted upon by ammonia. The roasting would help to clean the tin, it may, therefore, very readily and economically be separated from the residue after extraction of copper and silver by passing the stuff into the tank-buddle (fully described in the body of the patent). The tank-buddle answers admirably, and if generally adopted in the dressing of tinstuff in the way and under the conditions plainly stated in the patent, would materially diminish, if not entirely prevent, the loss inevitable by the present primitive method of tin dressing. With regard to silver-lead, silver can only be extracted from galena after the latter has undergone the usual smelting processes, whereby an alloy of silver and lead is obtained. The silver can be effectually removed from the lead by the ammonia process in the way fully described in the patent. The estimate of 4000*l.* or thereabouts for plant did not include mining costs, but is based on the assumption that the stuff to be treated is already to grass.

May 9. —— EDWARD SMITH, F.C.S.

THE NASCENT COPPER PROCESS—THE NEW COMPANY.

SIR,—Your correspondent, "Traveller," and the readers of the *Mining Journal* generally, will be glad to hear that a new company is in course of formation, and already duly registered, under the style and title of "The Nascent Copper Company (Limited)," with a capital of 15,000*l.*, in shares of 1*l.* each. The names of the gentlemen who have signed the Memorandum of Association are—Stephen H. Emmens, Stephen Boome, Percy Edward Jones, Thos. Henry Miller, George Schofield, D. Roberts, and Alex. Oliveira. The objects for which this is formed, as stated in the Memorandum of Association, are the adoption of the process, and the utilisation of all bye-products obtained during the treatment of ores by the wet method.

—— WELL-WISHER.

CANADIAN COPPER AND SULPHUR COMPANY.

SIR,—In the *Glasgow Herald* of March 25 appears a report of the proceedings of a general meeting of the shareholders of the above company, on which I venture to a make a few remarks, because we on this side of the Atlantic take a deep interest in the success of every enterprise started within this Dominion of Canada.

I observe that Mr. George Wilson, of Dalmarnock, was Chairman of the said meeting, and he stated in unmistakable language that he must receive "1000*l.* on Jan. 1 each year so long as the shareholders chose to have him for their chairman," and "one-tenth in the surplus profits above 10 per cent., and if he was obliged to go to Canada, the usual terms given to professional men—seven guineas a-day and his expenses paid;" also, "as to his colleagues, it was proposed that they should have among them another 1000*l.* a-year, and another tenth of the surplus profits." And, in answer to a shareholder, "The Chairman said that he was more than usually hopeful of the prospects of the concern, but he would not like the directors to assume that there was a certainty of a highly profitable result within a year or two. His bargain would not be conditional upon results: if he gave his time and his strength to the concern he would be paid for them, whatever the result might be."

I have had handed to me a report of the committee, dated Glasgow, April 2, over the signature of George Wilson, convenor, and from which I extract the following charges for management in Canada:—"Thomas Macfarlane, 600*l.*; W. Chadwick, 400*l.*; Captain Richard Bray, 240*l.* The business in this country (England) is conducted by Mr. J. R. Cunningham, jun., as secretary, on an allowance of 550*l.*; and by 'articles' Mr. James Taylor, F.C.S., was managing director of the company at a salary of 3000*l.* a-year, with hotel and personal expenses paid by the company." Now, if these sums are not altered it would show a grand total for management alone of 6790*l.* a-year, or $33,044, which sum for such purposes is two-thirds too much, or by that sum more than necessary for what the same and far more satisfactory work can be done; and as a consequence Mr. Wilson might well say "he would not like the directors to assume that there was a certainty of a highly profitable result within a year or two." Such extravagance eats up the prospects or surplus funds over working expenses, and in Mr. Wilson's way of putting it, "he would be paid" "whatever the result might be." Consequently, if from no other source, by taxing the shareholders.

As the success or failure of every company depends on its judicious and economical management, it becomes of the first importance that these points should be clearly considered from the beginning; to do otherwise is to risk disaster to the shareholders, and provoke hard and wrongful reflections on the enterprise, the people, and the country where the operations are carried on. Mining properties may be of the highest character, and susceptible of large returns over working expenses, but from such extravagance as I have pointed out disaster is pretty sure to follow, and this is what causes people in Great Britain to have misgivings in Canadian enterprises, while the fault lies in the extravagance at the head office and the sending out of persons to manage here who are also extravagant in their notions, at high salaries, not practical working men, and who know nothing of the ways of the people, the climate, and the geological formation of this country.

Shareholders should take more interest individually in these details, so as to keep down extravagance until the profits warrant an expansion. One chief manager is the only high officer that need be employed, and he should be a mining engineer perfectly acquainted with all the details of the work he assumes, and he should reside permanently at the place where the works are prosecuted. He should have some knowledge of accounts, and have a competent book-keeper to assist him. English shareholders should always have one reliable and confidential person on the spot, be he the manager or book-keeper, so long as he is reliable, and capable of making reports and returns that can be trusted as accurate. Other employees, such as foremen of special works and labourers, can be had on the spot who know more of the way work should be done according to climate, &c., than strangers can, and such men can be got here at from 4s. to 10s. per day, according to position. A reliable manager can be got here for about 600*l.* a-year, and a first-class book-keeper for 400*l.* These are the chief expenses that need be provided for, and no other allowances permitted. With a practical business man, who would take the interest of the shareholders to heart, he would get much of the work done by contract, and so reduce the cost of production to the lowest figure. Expenses at the head office should be insignificant, because all the work practically required there is merely to finance, attend meetings, and to lay reports received from the working office before the board or other meetings.

As all are desirous, or should desire, to see such companies prosper, I trust that these observations may be considered as given in a friendly spirit, with a view to promote the welfare of the Canadian Copper and Sulphur Company, and all others that feel interested in such work.—*Montreal, April* 14. THOMAS R. JOHNSON.

THE SEPARATION OF MINERALS.

SIR,—An economical dressing floor might be put up as follows—a Blake's ore-crusher should be put up as near the shaft as possible, and under the jaw of it a stream of water should be brought to take off all the stuff passing through to the first separator, which should be a grate with 1½-in. hole; the second separator should be a round classifier, with ⅝-in. hole, the water and stuff being taken on in launders below; the third separator should be a 6-hole one—6 holes to the inch. Here the jigging machine should be placed, and the stuff thrown into a box from which the jiggers may be supplied by a shoot from the same, all the fine passing on to the buddle. One or two separations would be required before entering the buddle. As my experience has extended over 35 years, and in various countries, I am confident that more economical dressing machinery than this cannot be put up for lead dressing, and I have never seen a mine where this machinery would not answer.

May 8. —— A PRACTICAL DRESSER.

VICTORIA AND FENTON PARK COLLIERY COMPANY.

SIR,—It is desirable that shareholders in the company should attend the extraordinary meeting which has been convened by the secretary (Mr. J. L. Wilson), to pass winding-up resolutions. By so doing they will see whether it will be more advantageous to them to be wound-up compulsory by the Court of Chancery, rather than voluntarily by (as will most likely be proposed) the secretary and auditor. As the promises made in the prospectus have not been fulfilled, a committee of enquiry would be serviceable to see if any action should be taken against the directors and vendors. This company was formed in March, 1873, to work the Fenton Park Colliery, for which the vendors received 20,000*l.* in cash, and 25,000*l.* in shares. They guaranteed 10 per cent. for five years, but only paid it the first year; and, so far, no action seems to have been taken against them. Mr. Henry White, J.P., Mincing-lane, was chairman, and Mr. Mottram Cox (one of the vendors) managing director. He died about 18 months since, and Mr. White resigned shortly after. From the quantity of gas and water, and the dip and poorness of the coal, the colliery does not appear to be capable of profitable working. In fact, it is said to have ruined most of the former lessors. —— SHAREHOLDER.

THE GWENNAP DISTRICT, AND ITS UNWROUGHT MINING GROUND.

SIR,—This district of all others deservedly stood preeminent for a number of years, and the inference is that there are as rich mines yet undiscovered as there were in its palmy days. That we have had no great discovery of copper for the last 20 years is due to the lack of enterprise in not exploring new or virgin ground, public attention is, however, now being drawn to its development, which must result in many instances in great success. As you are aware, Mr. Editor, I have long advocated the working of new ground, and that for two especial reasons—the better chance of making discoveries and consequent profits to the proprietors, and the less expensive way in arriving at the object of such research. In this district, and on the line of some lodes which have given millions of profit, there are sections of ground idle which if explored will prove equal in richness to any hitherto discovered. In company with another I have recently examined a piece of ground on the line of Tresavean and Great Consols lodes, and only a few fathoms from surface may be seen the outcrop of what is expected will prove on deeper sinking a rich deposit of copper, the lodes are large, producing copper ore and gossan close to the surface, can be wrought inexpensively, and to parties requiring employment of capital with little risk it recommends itself, and yet the investors prefer to speculate in risky foreign bonds or worthless schemes introduced from across the Atlantic. I am glad, however, that the English capitalists have had almost enough of this game, and after incurring heavy losses in such schemes their more serious attention will be called to home investments. There are enquiries for pieces of ground that can be proved for a comparatively small amount, and if a proper selection be made of such setts the risk will prove nothing compared to the prospects of success.

It may not be out of place here to remind your readers that not long since I advised the working of a piece of new mining ground near this place, that after a small outlay and in a short time it resulted in the discovery of a productive mine, now paying dividends to the shareholders, and the property representing a market value of 40,000*l.*, not yet half its value, and on the necessary title being completed I shall have pleasure in introducing another property of equal prospective value, and that, too, without any promotion money.

St. Day, Scorrier, May 9. —— CHAS. BAWDEN.

THE COMPARISON OF MINES.

SIR,—As comparisons are always odious, it was unfortunate that any of your correspondents in publishing their opinions about the relative merits of the different mines in which they are interested should have selected the line of argument they did. However, once a certain correspondent adopted that method, and it was only natural for others who felt jealous of the honour and character of the mines disparagingly spoken of to repay them in the same coin. A "Cautious Man" seems to be at a loss to understand why the Glyn and East Van Mines stand at such a premium, whilst Pennerley at such a low figure. If this correspondent were well versed in the geographical aspect of the several mining properties he would not have been under any necessity of exclaiming his surprise in a public journal. He undoubtedly knows that the Pennerley Mine is in Shropshire, but I very much question that he is aware of the relative position of the Glyn and East Van. Evidently the reason why the East Van shares stood at one time at such a high premium was its close connection with its giant neighbour—the Van—the adit level being only about 1 mile from the latter, and the investing public concluded, and quite correctly, that the seemingly inexhaustible Van lode had been discovered, and naturally expected it to turn out equally lasting, rich, and productive. Now, the Glyn Mine is about the same

distance from the Van as the East Van, the latter situated eastward and the former westward of it. When the discovery of a rich lode in the Glyn was made a few weeks ago the shares only advanced from about 2½ to 6; whereas the advance in East Van was from about 30s. to 22*l*. The wonder is, I think, that the Glyn shares are so low, considering the certainty of its rich lode being that of the Van, and its close proximity to the latter (being scarcely ½ mile distant in a straight line), making it highly probable that it will prove equally rich, lasting, and productive. Another fact which speaks highly of the Glyn Mine is that about one-fifth of the shares are held in the immediate vicinity of that mine—a fact unknown in connection with any other mine in the neighbourhood, showing the implicit confidence the neighbouring investors have in it.

JUSTITIA.

LEAD MINES OF DERBYSHIRE—No. VII.

SIR,—Taking into account the length of time during which the lead mines of this county have been worked, the great hindrances from water in depth, and the fact that the veins generally grow poorer as depth is attained, we cannot say that the future prospects of Derbyshire mining are very brilliant. Still, there are a few localities where capital might be invested with fair chances of a return, always provided that little or no promotion money were paid, that the directors were honest men, and, above all, that local agents were employed, not managers from Wales or Cornwall, as has sometimes been the case. The Ecton Mine might possibly be re-opened—certainly the Dale Mine, quite a shallow one, might be worked with excellent prospects. There is a fine piece of ground, about two miles square, between Winter and Snitterton; about one mile south of Mill-close; this has been very slightly worked, and would require no pumping machinery. Again, the tract of country between Monyash and Middleton seems a very promising one; also the district between Carsington and Brassington, and doubtless the many practical miners in Derbyshire might suggest other localities of promise. And here we will say a word in favour of Derbyshire mine agents. We have always found them quiet and unassuming men, but thoroughly able and willing to do their duty. They do not, indeed, possess those wonderful powers which would enable them to trace a rich vein all the way, for instance, from Matlock to Buxton; nor, indeed, are the Derbyshire lodes so accommodating and ubiquitous as that wonderful Van lode, which, as a matter of course, extends from Llanidloes to Aberystwith, and goodness knows where besides.

We have not space to describe the singular mineral laws of this country, so different from those which prevail elsewhere; several treatises also upon them are easily to be obtained. We have been informed, moreover, that they are not carried out so strictly as they were in times of old. Formerly, owing to these laws, very small setts alone were granted, not more than 40 fms. to 50 fms. on the course of the vein, and this led to litigation, and even to underground quarrels; hence it is said that at the Glory Mine, near Crich, and the Magpie, near Bakewell, at the beginning of this century the miners met and fought underground—in the case of the Magpie Mine using burning sulphur so as to destroy life. Having often heard this repeated, we have never been able to get the particulars, and cannot vouch for the exact truth. A few words about the scenery of this district, although not strictly a part of the subject, will, perhaps, not be out of place. Nowhere in this country can finer scenery be found in a mining district; the only localities which can be compared with it are the upper portion of Rheidol, near Ponterwyd, and the neighbourhood of the gold mines between Dolgelly and Barmouth. Omitting Matlock and Dovedale, which are so well known and so much visited, what can be more beautiful than the scenery of the Via Gellia, between Cromford and Hopton, and that of the charming Lathkil Dale, about four miles west of Bakewell? We give the palm to this last, and strongly advise every Derbyshire tourist to visit it. Lathkil Dale is best approached from the Rowsley Station; follow the road towards Youlgreave for about three miles till it crosses the little River Lathkil, and then turn to the right and proceed up the left bank of the stream. For five miles or more it is a scene of the most varied beauty; here lofty slopes covered with hazel bushes, from among which at rare intervals peep out yellow rubbish heaps, marking the entrance of some adit, and showing that the spirit of enterprise is not quite dead in the county. Further on lofty cliffs of limestone, in many places mantled with ivy; again, huge banks and screens of limestone boulders, fallen from the cliffs above. There is no carriage road, only a little-used footpath, and we are not sure whether this is strictly a public one. The little river foams over masses of rock, forming numerous cascades, or spreads out into quiet pools. It has all the pellucid clearness so general in limestone waters, and is much deeper than it looks. Numerous and fine trout are seen swimming almost everywhere, for the Lathkil is strictly preserved by its owner, the Duke of Rutland. Wild flowers of many kinds—some rare ones—are to be found, and when we last visited the dale (May, 1875) the woods were one sheet of blue splashed with scarlet, from the abundance of hyacinths and lychins. About two miles up the dale the tall spectral and half-ruined engine house of the old Mandale Mine suddenly comes into view, and a little further on is the aqueduct crossing the stream and formerly conveying water for the wheels. We are sure that with fine weather none would regret a visit to this valley, and a pleasant return might be made over the hill by Monyash, either to Bakewell or Winster.

J. B.

COPPER DEPOSITS AT NANTLLE VALE, CARNARVONSHIRE.

SIR,—By all who have made themselves acquainted with the mineral deposits in this district it must be admitted that but few places are more interesting; both the mineralogist and geologist alike will find this a most pleasing field for meditation, because the laws which govern the deposition of copper are clearly brought to light by the facts which are presented in the mines which for ages have been worked. I presume that there are comparatively few who have even the slightest knowledge of the history of the mines here, as they are so seldom brought before the public. Private individuals have always, or nearly so, been the proprietors, keeping for themselves the wealth which the mines have yielded to them. Most other mining districts have been favoured with disquisitions or treatises on them endeavouring to explain theories and principles which are said to govern the various changes and modifications found both in the mineral veins and in the formations which surround them; but with regard to this, I am not aware that anything more than a few general observations have ever yet been published, although a volume of no small dimensions might be written, and every page full of interest.

It is not my intention in these letters to go so fully into detail, but to notice some of the principal facts, and make some deductions from them. These facts show—1. The relative ages of the strata, lodes, slides, deposition of copper, and physical character or configuration of the surface.—2. The chief agent employed by Nature in her great laboratory in the formation of the large deposits of copper which have so enriched the coffers of the fortunate few.

To begin with the physical features of the surface—there can be no doubt that the present form took place since the last change in the strata, lodes, slides, and whilst the copper was yet being deposited. This is evident from the nature of the structure of the mountains on either hand as we pass up the valley from the upper lake, and especially in the pass of Drws-y-Coed, where it is clearly seen that the softer part of the rock is scooped out into hollows, whilst the harder is projecting and rounded, showing evident signs of glacier action. On one side a lode or mineral vein is seen entirely laid bare for a height of nearly 600 ft.; on the other side, which is clay-slate, the mountain is much higher, but scooped more perpendicularly and more unevenly, and covered with debris for a very great distance towards the top, where the disintegration is still going on. On the aforesaid mineral vein a very sudden break is made, being entirely cut off and reduced to the level of the bottom of the pass. At this point the lode is broken by cross vertical slides, making it more easy to be carried away by the action of water or glaciers, which agency have also removed for some distance to the same level the underlying stratum. Since this action has been going on externally, Nature has been busily engaged in the formation of copper internally, which is evident from the fact that the nearer to the top of the mountain the lode has been wrought on by the miners the less important and more casual the bunches of ore become; whilst below the surface of the valley the deposits of copper have been more lasting and more certain, proving that the deposition had commenced, but not perfected, when the change took place in the figure of the surface. By your permission I will continue this subject next week in the hope that it will be of some interest to many of your readers.—*Symdde Dylluan Mine, May* 9. JOHN ROBERTS.

CARDIGANSHIRE MINES (NEW AND OLD)—No. III.

SIR,—It has given me much satisfaction to read in the Supplement to last week's Journal the letter from "Hard Times," respecting the Cardiganshire mines, and taking the ground alluded to by him between Bronfloyd to the west, and the boundary between the counties of Cardigan and Montgomery, I will endeavour to describe what is being done, and what may be done, if capital is provided for giving the mineral ground between them a fair and proper working trial. Before commencing, however, I would say that I fully endorse all that "Hard Times" has stated, and that I believe Cardigan not only to be as good as any mining county for investment of capital in England or Wales, but "the very best," all and everything being properly considered.

I will now begin my remarks by stating that the prospects of Great West Van have been gradually improving, and as they have laid out a large sum of money in erecting machinery and the development of the mine, that it is not improbable, 12 months hence, it may become a small dividend paying mine. The lode contains too much sulphur to make lasting courses of lead ore in this district. The West Esgair Lle Company have in their grant a very fine lode, and judging from the indications, one that must prove very productive in depth. More particularly is this the case in the eastern portion of the ground, whilst westward the vein is filled with a sufficient quantity of blende to work at half profit. I, therefore, look forward to a good future for the gentlemen holding an interest in this property. The Temple Mine, or that portion now being opened out, is on a south lode from the main, or great, Estymtyhen vein, the champion lode of this and also of Montgomeryshire, for I believe it can be clearly traced from the River Rheidol, with little or no interruption, on to the Van Mine. On this south lode an adit level was commenced on the western side of the River Rheidol, on the course of the vein, and opened a course of lead ore as soon as the rock was met with, which would yield 1 ton per fathom, the component parts of the lode being all that could be desired. This adit is now being carried forward, and will eventually gain backs of 100 fathoms high, and cannot, in my opinion, fail to become a very rich and lasting mine. It would require a very large space to go into details of the lodes in this ground, which I may possibly touch upon hereafter.—*Goginan, May* 8. ABSALOM FRANCIS.

GOLD MINING—THE CLOGAU COMPANY.

SIR,—I am desired by the directors of the Clogau Company to make a few comments on Mr. Harvey's letter in the Supplement to last Saturday's Journal. He finds fault with the directors because they are working with the object of "feeling their way to the best methods to be adopted." Under the circumstances it is not astonishing that they admit they have been doing so. They had the evidence of previous failure, but had no proof of the cause of it. Whether it arose from defective appliances, or from the fact that the ore was not sufficiently rich on the aggregate to pay, they had to find out for themselves. As regards the machinery they availed themselves of the best advice they knew how to obtain, but the advice was so varied that it is hardly to be expected they should find they had selected the best appliances on starting. By the desire of one of the shareholders Mr. Harvey himself was applied to some months ago, as it was presumed, from his advertisement in the Journal, that he was prepared to give advice. He stated he would gladly give them any information he possessed, but he would never state what fee he would require for doing so, therefore the directors have so far been unable to judge whether Mr. Harvey's information could be of service to them. The main machinery consists of a Blake stone-crusher of ample size, and a 10-head stamp battery. The battery is one made after the Californian pattern, with some slight alterations in detail. The stamp stems are 4 in. and the head 9 in. in diameter, with a fall which can be varied up to 14 in. The battery-boxes are not of the very best construction, but they can be readily changed whenever the directors think it advisable to do so. The stamps do their work well, and the only reason that can be suggested for their being called clumsy by Mr. Harvey is that they were not made from designs furnished by him.

JOHN ARMSTEAD, Secretary.

WEST CHIVERTON, AND ITS MANAGEMENT.

SIR,—I shall feel greatly obliged by your allowing me space in the Journal to state a few facts relative to how this mine has been handled during the past 17 months. Of all the *pros* and *cons* I have heard and read from time to time I very well recollect reading the manager's remarks advising all who held different opinions to himself as regarded the future of the mine to quietly wait the issue, and let it speak for itself. Now, I think the results during the above-mentioned period have more than exceeded the most sanguine expectations, and in the absence of such rich courses of mineral as heretofore it is pleasing to find that a continuous sinking of the shafts has been carried on, scores of fathoms of levels driven through unproductive ground, several old levels (which have for years past been filled up) cleared out, and whilst all this dead work has been accomplished nearly 40,000*l*. of mineral returned, plainly showing the shell was not so empty as some would have it to be; another great feature is that notwithstanding the price of blende has materially fallen off during the past quarter, yet the returns and profits are equal to the previous quarter, so that evidently West Chiverton is not so dependant on this mineral as some would aver, and it must certainly be a source of considerable satisfaction to all connected with this great undertaking to know that when one kind of mineral falls off the other makes up the deficiency. I hear also that Capt. Southey has purchased recently one sixth of the mineral rights of the Manor of Ventongimps, wherein the mine is situate; this of itself speaks volumes for the future prosperity of the concern, and I sincerely trust that such indomitable pluck and untiring energy will be rightly estimated by both lords and shareholders. I gather also from the report of the meeting just passed that whereas one crusher was almost sufficient to deal with the returns of mineral, now two are inadequate, and Capt. Southey has, with the amazing foresight manifested by him throughout his connection with the concern, recommended the erection of a third and more powerful crusher forthwith. I believe this work is already commenced, and will be completed as quickly as possible, added to which will be dressing appliances of very improved construction, enabling them to dress the vast quantities of stuff now being drawn out of the mine, and of which I learn from good authority they have an almost inexhaustible store. In conclusion, the resuscitation of such a large and almost abandoned mine must be a welcome boon to the neighbourhood, and the strenuous efforts put forward by Capt. Southey to bring it to a successful issue should be highly applauded by mining men generally.

AN OLD SHAREHOLDER.

MINING v. UNDERMINING.

SIR,—In our letter last week we hinted at the so-called contract work in mines, especially in Cornwall, endeavouring to show that the work was really done by day or monthly labour. We mentioned also the captain who probably wished to please his committee. We are aware the committee are usually chosen from the large shareholders, who have, of course, themselves invested in the mine, and we have reason to know that they often give their time gratuitously. In many instances, however, and perhaps in most, they are little acquained with mining matters, but rely on the veracity of the captain or manager of their property. Is it not right then, that the captain should use his utmost effort to place all matters truly before them, not only as regards the lodes discovered, but also the most economical method of working? If such were done he would advise real contract work, and, consequently, be subject to such variations in the cost-sheet as is really incidental to such an undertaking, his work would be done much cheaper, and in far less time than now occupied. Captains are generally chosen from the working miners, which is a very proper arrangement. Their efforts, however, to please their committee has frequently led them to disregard the true interest of the working man, and at the same time causing great loss to the proprietors. Let him plainly inform the board that the system which has lamentably been in use so long should be abolished, and we are confident these gentlemen would quickly see the force of his advice, and he would by so doing benefit himself, the working man, and much more so the adventurers. Boards of directors are not always composed of persons of high sounding names, who attend meetings for their guineas, while perhaps they may not have invested any money in the undertaking, but those who have the matter really at heart, and would readily adopt any real improvement in the mode of operation. And we sincerely hope the time is not distant when mine captains will fearlessly give expression to their views without a fear of losing their situations.

There are other evils which might be enumerated, and which are known to many, but enough at present. It is said a knowledge of the disease is half the cure, let genuine mine managers combine not only to search out the evils, but help to remedy them at once. The mineral wealth of England is incalculable, and with proper and united efforts we need not fear the foreigner; we have beaten him in years gone by both on sea and land, and we may do it again. We observe that Mr. Macdonald, M.P., is recommending a system of co-operation among the colliers; we fear he may have much trouble in establishing it. Colliers' wages have received such a reduction lately that it is really to be hoped they may not further recede. History repeats itself, and supply and demand as a rule must govern a market. We hope, however, when a demand for labour again arises that the worker may be moderate in his demand, and not be led by selfish thieves, calling themselves delegates, &c., and who in the last few years have been the cause of undermining the employer's purse, and lamentably also in many cases the children's mouths, and surely causing more misery than any war this country has experienced for many a year. There is now a sign of an improvement in business, and it may fairly be hoped that the general trade of the kingdom will soon recover its wonted activity.

T. VOSPER.

Finsbury-circus, May 11.

JAVALI MINE.

SIR,—Now and again a letter appears in the Journal bearing on this mine, otherwise one would hardly suppose there were a score of people interested in it. Noticing the low price at which shares are advertised by the various dealers (about 180 shares altogether), I have devoted some time to enquiring about the mine. The amount received from the mine has been gradually increasing: last month it was about 1,000*l*. Should the remittance reach 1,666*l*., and average that amount, it will become, according to our Chairman's speech at the last meeting, a dividend-paying mine. This return is promised by the manager, and it is believed he can fulfil his promise. Every want named by him is promptly supplied, and shortly we may hear of his extracting the gold from the tailings. With all this satisfactory state of matters, the shares which once were 2¾ are now advertised at ½. A few shares put on the market during the present general depression is, I am informed by a dealer, the cause of this. The advertised price makes it appear that the present value of the mine is only 17,000*l*., whereas the last report tells us that the machinery and buildings are worth 29,000*l*.—*Cork, May* 10. WATT.

[For remainder of Original Correspondence, see to-day's Journal.]

JOINT STOCK COMPANIES LAW.

Upon several occasions since the Companies Act, 1862,* came into operation the annotated reprints published by MR. ANTHONY PULBROOK, solicitor, have been referred to in the *Mining Journal* as the best arranged and most nearly complete; it is, therefore, gratifying to find that, in view of slight differences in the general law introduced by the new Judicature Act, he has now issued a new edition (London: Effingham Wilson, Royal Exchange) of his book, the present volume embracing the Companies Acts, 1862-67; the Stannaries Act, 1869; the Life Assurance Companies Act, 1870, and such extracts of other Acts as are likely to be required for frequent reference by those engaged in the management or as shareholders of public companies. There are almost innumerable analytical references and a copious index, together with an appendix, containing the rules and forms of the High Court of Justice regulating proceedings under the Companies Acts, and a valuable collection of forms for use during the existence and voluntary winding up of a company, certainly not the least important of the annotations being those which indicate the exact amount of stamp to be used upon each of the several formal documents which have from time to time to be employed.

Another important section of the book, although occupying but 14 pages, is that which supplies "Practical Hints on the Formation and Management of a Company." He gives ample details as to the nature and preparation of the Memorandum of Association and Articles of Association, and explains the mode and cost of registration. There are useful suggestions as to the registered office, issue of prospectus, allotment of shares, and books required. Upon this last point his observations are particularly good; after naming the four books which, in addition to the ordinary books of account, will be required, he explains that there are a few others, which he mentions, found necessary by some companies, but, he adds, these need only be purchased as required, and that it is necessary to mention this as companies very frequently purchase at large prices a number of books which are never required, and which, in consequence, have never a line written in them. Careful attention to Mr. Pulbrook's observations as to the signature to cheques, bills of exchange, &c., may prevent much unpleasant consequences, for it appears that the usual form of signing "A. B. and Y. Z., directors of the —— Company (Limited)," with the countersignature of the secretary, renders those signing personally liable in consequence of the omission of any words showing that they were acting on behalf of the company. Another point not generally attended to is the winding-up of companies which are not floated, but as Mr. Pulbrook remarks—a company continues to exist until it is wound up either voluntarily or by the Court, as provided for by the Companies Act, 1862. Members of all abortive companies should, therefore, see that proper resolutions are passed to wind up voluntarily, or they may at some future date find themselves involved in liabilities in a concern the existence of which they have entirely forgotten. The volume is altogether a most valuable one, and no one connected with public companies should fail to make themselves acquainted with its contents.

THE LAW OF MINES, MINERALS, AND QUARRIES.

As it is essential that all engaged in mining should know something of the laws relating to the class of property in which they are interested, more especially as, owing to the very nature of that property, responsibilities are incurred and exemptions or privileges may be claimed, such a volume as that of Mr. ARUNDEL ROGERS† will be very generally acknowledged to be useful. Although issued as a second edition the work appears to have been almost entirely rewritten, and very much improved, the volume now reaching the size of an encyclopædia of fair dimensions. During the 12 years which have elapsed since the first edition was issued many changes have been made in the laws relating to mines, and English capitalists have become far more connected with foreign mining enterprise, so that an important revision has been rendered necessary. For the revision of the English portion few more competent than Mr. Rogers could be found, and he has taken the best possible step for securing equal reliability in that referring to mining elsewhere than in England, for a portion of the work relating to mines and minerals in other countries has been revised in most instances by residents in the districts more particularly referred to. With regard to the United States, in the laws of which, at least as concerns mines, Englishmen are deeply interested, Mr. Rogers states that he has compiled an entirely new chapter, chiefly from original sources, there being in his opinion no connected work upon the subject published in the States. Each State makes its own laws, subject only to federal supervision and control upon imperial questions, and this has made it extremely difficult to collect and summarise those laws within reasonable limits.

The information relating to the law of the subject in Great Britain and Ireland has been brought down to the latest date, and in the chapter referring to the interpretation of mining terms there are some very interesting facts recorded. It seems that it has been legally acknowledged the word "mine" is derived from a Latin word of the lower ages, *minare*, signifying "*ducere*, to lead," and the interpretation of the word is "to draw or lead, &c., a way or passage

* "The Law Relating to Mines, Minerals, and Quarries in Great Britain and Ireland: including the Rights of the Crown, the Duchy of Cornwall, and Local Laws and Customs; with a Summary of the Laws of Foreign States, and Practical Directions for Obtaining Government Grants to Work Foreign Mines." By ARUNDEL ROGERS, of the Inner Temple, Barrister-at-Law. Second Edition. London: Stevens and Sons, Chancery-lane.

underground, a subterraneous duct, course, or passage, whether in search of metals or to destroy fortifications," &c.; and the cases cited seemed to the learned judge (Turner) to support the definition of the word "quarry," given by the same authority. The word "quarry" is there stated to be derived from the (old) French word *quarriere*, and the derivation is followed by this description—"In the Latin of the lower ages *quadratarius* was a stone-cutter, *qui marmora quadrat*, and hence *quarriere*, the place where he *quadrates*, or cuts the stone in squares; the place where he cuts the stone in squares, generally a stone pit," clearly, therefore, referring to a place upon, above, and not under the ground. In another chapter the protection which railway and other public companies are required to give to the owners of minerals adjoining the lands taken by the company is fully discussed. The Mines Regulation Acts, Masters and Workmens Act, Mines Rating Acts, &c., are all commented upon in great detail, so that the volume will prove invaluable as a work of legal reference, and at the same time contains much that will interest the general reader. The preparation of the volume must have involved an immense amount of labour, but Mr. Rogers may well be congratulated upon the result.

Meetings of Public Companies.

NATIONAL PROVINCIAL BANK OF ENGLAND.

The annual general meeting of proprietors was held on Thursday, at the Bank, Bishopsgate-street, corner of Threadneedle-street,

Mr. RICHARD BLANEY WADE in the chair.

Mr. EDWARD ATKINSON, one of the joint general managers, read the notice calling the meeting. The report of the directors was taken as read.

The CHAIRMAN said that since they last had the pleasure of meeting the shareholders the commercial world had passed through a period of considerable disaster, distress, and gloom; the disaster and gloom, he was happy to think, had passed away, but the gloom which characterised all departments of business during 1871 still, he was sorry to say, remained, and at present he saw no gleam of light which led them to hope that state of things was about to pass away. Notwithstanding the character of the year was such as he had described—one of great disaster and distress—yet the directors were able to meet the shareholders with a report which he thought they would consider in all respects satisfactory, and he considered the directors might congratulate themselves and the shareholders of the bank, without any undue spirit of boasting, on the results shown in the report. The directors met the shareholders to-day with the capital and reserve fund intact; they were able to pay what, considering the value of money during the year, they might regard as a very good dividend, and as for the present position and future prospects of the bank, he did not believe they ever stood higher than at the present moment. (Cheers.) The directors also thought that the events which had occurred since the last meeting were a proof that the system of management was good; they believed that any bank which withstood the severe series of crises which occurred last year must have a good system to work upon, or it could hardly have passed through it so satisfactorily. The directors knew as well as anyone could do the difficulty and anxiety attendant upon the employment of large sums confided to their care, but it was a great satisfaction to think that the lines upon which the transactions were pursued were good, and that they had been well followed out during the past year. The transactions of the bank, especially during the year 1875, had not, of course, been as profitable as in former years; the value of money was less—very nearly 10s. or one half per cent less than in 1875—than in the year preceding, that was to say, that the average rate of discount at the Bank of England was 10s. lower. He was happy to say that the deposits again showed a considerable increase; the increase of deposits over the whole of the establishment exceeded 2,000,000*l.*, and that increase was spread very evenly over the branches. There were very few branches which did not show some increase, although, of course, some showed a larger increase than others. The directors proposed, out of the profits of the year, to pay a dividend altogether at the rate of 21 per cent. for the year, and he believed that must be received with satisfaction. It was also proposed to place 16,165*l.* 14s. 10d. to the reserve, which would bring up the reserve fund to 900,000*l.*, the whole of which was invested in Government securities. Within the last two or three years it had been somewhat the fashion in some quarters to discourage the necessity of keeping a reserve fund. It was thought that such had been the prosperity of the country for some years that a large amount of reserve was not necessary, but he thought that those who formerly held that opinion must now have formed a very different opinion, because recent events showed that a bank of this magnitude ought to have, in justice to its customers who dealt with it, as well as in justice to the proprietors, a very large amount of reserve; and the directors hoped and believed that before very many years were passed the reserve fund of this bank would amount to 1,000,000*l.* (Hear, hear.) The directors, he might state, also proposed to carry forward 50,641*l.* 6d., a large sum no doubt, but it was strictly in accordance with the policy which had been adopted in former years, and which had met with the approval of the shareholders during the period of calling up a considerable amount of new capital. He had said that the system of management pursued in this bank was good, but he need hardly tell them that any system of management, however good, would be of very little avail unless they had very good, intelligent, and energetic agents to carry it out, and it had always been a satisfaction to the Chairman at the meetings to hear testimony on the part of the board to the admirable manner in which they managed the business of this bank. Not only could the directors rely upon the general managers and heads of great departments both in London and at the branches, but they had also this satisfaction, that when they looked at the staff they found in its ranks men of ability and talent coming on who would be able to occupy the highest places when they became vacant. He need not impress upon the shareholders the importance of this state of things; because this was an institution which was intended to last not a day, but they believed it would last for years to come, and it was of the highest importance that amongst their own officers they could find that ability at hand to put in places which became vacant, and required to be filled to conduct efficiently the business of the bank. (Cheers.) The advantage of this state of things appeared very forcibly during the past year, when the directors had to make several appointments, and to fill up some of the highest places at their disposal, and he was happy to say they found no difficulty in filling up those posts with men in whom they had the most perfect confidence. The necessity of the appointments arose from the circumstance that his friend, Mr. Atkinson, one of the joint general managers, felt that the time had come when he must retire from the very arduous duty which his post entailed. He need not say that the board received the news of Mr. Atkinson's retirement with the very greatest regret, but at the same time they felt that it would be pure selfishness to ask him to retain office one day longer than he ought to do. For upwards of 40 years Mr. Atkinson had laboured in this bank in a great variety of offices. As Mr. Atkinson was present to-day it would ill become him (the Chairman) to, even if he had the power, convey fully the feelings of regret and esteem in which that gentleman was held, or the very high esteem in which they held his character and ability. Mr. Atkinson combined an amount of what he might call most first class ability, which would have succeeded in any walk in life into which he had entered; and, in addition to that, he possessed energy and activity of mind and commercial judgment, and knowledge of individuals, which he had rarely seen surpassed. This was a combination of great and good qualities which were found in few men, and he (the Chairman) might be allowed to say that even when they did find them they found still fewer men using their abilities in the way that his friend, Mr. Atkinson, had done during his whole career. The work which Mr. Atkinson had had to do he had done with all his heart, with out any feeli ng of selfishness, without any thought of self advancement; Mr. Atkinson had done the work because he had felt that it was his duty, and when Mr. Atkinson retired from the service of the bank he would carry with him the kindest wishes, and the deep regret of everybody connected with the bank, from the highest to the lowest, and he was sure the hearty wish of everybody was that Mr. Atkinson might be long spared to enjoy the leisure which he had so well earned. (Cheers.) The moment the directors heard that Mr. Atkinson had made up his mind to retire they at once resolved to ask Mr. Atkinson to allow himself to be elected an honorary director of the bank, and he was happy to say that Mr. Atkinson at once assented to the proposition, feeling that his whole life was bound up in the prosperity and success of the National Provincial Bank of England. When Mr. Atkinson retired the duties which he now performed would be entrusted to their old friend and valued officer, Mr. Holt, who had been connected with the bank even longer than Mr. Atkinson, and would bring to the discharge of his duty every requisite to ensure success. The shareholders would be interested in knowing that the new general manager was to be Mr. Fergusson, who had been in the service of the bank for many years; Mr. Fergusson was a thorough banker, and possessed great knowledge of commercial and money matters. He had been manager of four branches, the last being the important branch at Manchester, and he was happy to say that at every branch at which he had been manager he (Mr. Fergusson) had conducted the business with the greatest energy, activity, and ability, and had always increased it. (Cheers.) In conclusion, the Chairman moved the adoption of the report and accounts.——Mr. J. O. HANSON seconded the resolution.

Mr REEVE congratulated the shareholders on the very satisfactory report, and especially approved of the addition to the reserve fund. He asked whether it would not be politic to reduce the amount allowed on deposits?

The CHAIRMAN said that the question relative to the amount to be allowed on deposits was a very delicate one to deal with. There had been various meetings of the banks, but he need scarcely point out that the interest of different banks varied very much, according to the different kinds of business which they did, and the different classes of depositors they had to deal with. Although the matter was considered with a great deal of care, no positive arrangement was arrived at, and he thought that was a question which would be dealt with from time to time as circumstances arose. As regarded the Lincoln's Inn branch, he believed it would be a great accommodation to many country customers visiting London, and would also be most successful in other ways He might mention that the usual bonus of 10 per cent. had been given to the clerks. As regarded the question of the Scotch banks doing business in this country, that had been under investigation by a Parliamentary Committee, but no action had yet been taken by Government with regard to it. He hoped, however, that something would shortly be done to meet the injustice of the case, so that the English banks would be placed on somewhat more of a footing of equality with the Scotch banks.

The report was then adopted.

On the motion of the CHAIRMAN, seconded by Mr. HENRY PAULL, the retiring directors—the Hon. Eliot Thomas Yorke, Mr. Robert Wigram, and Mr. Alexander Robertson—were re-elected.

The Hon. Mr. YORKE acknowledged the re-election of his colleagues and himself, and in the course of his observations bore warm testimony to the great value of the services which had been rendered by Mr. Atkinson.

Mr. HARRISON moved a cordial vote of thanks to the directors. He said he had attended these meetings for very many years, and, having some considerable knowledge of monetary matters, he could fully appreciate the very great care and ability with which the bank had been managed to bring about such satisfactory results.

The resolution was seconded by a shareholder and carried, and the Chairman acknowledged the compliment.

Mr. AUSTIN then proposed a vote of thanks to the joint general managers, and the staff generally, for their able management of the branch offices. He alluded to the regret with which the shareholders had heard of the resignation of Mr. Atkinson, and said he was sure that gentleman carried with him the best wishes of all the shareholders, as well as all with whom he had been connected in business.

The Rev. Mr. FOWLER seconded the resolution, which was put and carried.

Mr. EDWARD ATKINSON acknowledged the compliment. He glanced at his long connection with the bank, and said he believed there was no bank throughout England which had a more competent or zealous staff. He particularly drew attention to the gratifying fact that they were able to select their head officers from members of the staff. He said he would only too happy at all times to render every assistance in his power to the executive of the bank.

A cordial vote of thanks to the Chairman for his able and courteous conduct in the chair closed the proceedings.

FITZROY BESSEMER STEEL, HEMATITE IRON, AND COAL COMPANY.

A general meeting of shareholders was held at the Cannon-street Hotel on Thursday,—The Right Hon. the Earl of DEVON in the chair

The report of the directors stated that the works of the company are now in active operation. In June last funds were raised by the issue of mortgage debentures for the purpose of engaging and sending out to the works a manager of practical experience in the manufacture of iron with anthracite, as well as other descriptions of coal. The directors selected Mr David Lawson, who was at the time holding a responsible position at the works of the Landore Siemens Steel Company of Swansea. Mr. Lawson was engaged for a limited period, during which he was to proceed to the works, and, if possible, start the furnace. He arrived in Sydney on Nov. 16. There being no funds then available for the construction of a Tramway to Jellore (a portion of the company's property some five or six miles from the works where several seams of coal of good quality exist) the directors considered it prudent to request the committee to purchase coal for the use of the new manager upon his arrival, and until the requisite funds could be remitted for the above purpose. Mr. Lawson, thus, soon after his arrival, found himself provided with sufficient fuel to put the furnace in blast, and this was shortly accomplished.

The furnace is producing (according to the second telegram) about 160 tons of iron per week, the cost per ton being about 3*l.* There does not seem to be at the present moment the usual demand in Sidney for pig-iron. It may be observed, however, that this is probably attributable to the stagnation of the iron trade in this country, which has led to the shipment to the colonies of large quantities of iron at very low prices. The directors are of opinion that this state of things may, for the above reason, be looked on as temporary. This view is shared by Mr. Keep, the Chairman of the Sydney Committee, who is at present in London, and has favoured the board with much information and assistance with respect to the affairs of the company in the colony. The coal hitherto purchased has to be brought a great distance by sea and rail, and has then to be chiefly coked in "clamp" (open) fires, a process which, by occasioning a loss of matarial, also adds to the expense of the fuel. The total cost of the coke consumed by the furnace is thus found to be 1*l.* 7s. 9d. per ton. The committee and manager unite in recommending that a tramway should be laid to the company's own coal seams at Jellore. In order to command a readier market, and a larger profit than pig-iron secures, it is proposed to repair the rolling mill and forge, for the purpose of converting the iron into bars, plates, &c. The manager also refers to the necessity for the erection of coke ovens. The committee make an urgent appeal for funds to carry out the above works.

The directors feel confident that the shareholders will support the committee and the new manager in their endeavours to place the works in a remunerative state Satisfactory as is the intelligence that iron is being made at a profit from purchased coal, it must be admitted it would not be wise for the company to permanently rely upon that source for their supply of fuel, any interruption to which would cause great loss. The directors, therefore, press upon the shareholders the importance, in their own interests, of finding funds for enabling the greatest possible profits to be realised upon the iron produced. However great the demand might be for pig-iron, the profit upon merchant iron is so much larger that any outlay upon the rolling mill would be speedily recouped, and yield a handsome return upon the capital employed. With a view to enable the company to carry out the above objects, the directors, in conclusion, earnestly urge the shareholders to take up the second mortgage debentures, bearing interest at 10 per cent. per annum, which will be secured (subject only to the liquidation of the 25,000*l.* first mortgage debentures) upon the lands, works, and mines of the company, with the plant and fixtures thereon, and thus place the works in a more efficient and remunerative condition.

The CHAIRMAN said they had assembled to-day for the purpose of submitting a report of the proceedings of the company for the half-year ending December 31, 1875. The information was of a character much more satisfactory than that communicated when they last assembled. The shareholders had been informed of the arrangements made, and that they had sent out a competent and experienced manager to the mines in Australia. He arrived in Sydney on Nov. 16, and the letters and telegrams placed before the shareholders showed to some extent the proceedings taken by the manager, and the subsequent letters, copies of which were appended to the report, carried on the history of the proceedings up to the middle of March, 1876. He felt justified in pointing out satisfactory features in that correspondence—the favourable impression which Mr. Lawson appeared to form of the prospects of the working, and the opportunities there were to make it a successful undertaking, which his further knowledge and subsequent experience had to a considerable extent confirmed. On the other hand, from the letter from the committee in Australia it appeared the impression formed in the first instance of the straightforwardness and apparent knowledge and experience of Mr. Lawson had been very much confirmed by subsequent acquaintance. The correspondence which had passed between the committee and the board was now supplemented by the presence in England of two members of the committee in Australia, of whose presence they had the advantage on this occasion. The general result of the correspondence was summarised in the report of the directors. The suspension of the demand for pig iron was owing to causes which might ultimately, and, perhaps, at no distant period, be removed. The letters from Australia indicated that the manufactured iron was produced under considerable difficulty, in consequence of the costliness of the coal, which was necessarily used. The company had on its own land a quantity of coal, which they believed was very well fitted for the purposes of manufacture; that coal was at present inaccessible, as a tramway was required of some five or six miles in length. The coal was at present brought from a distance of about 40 miles by sea and 60 miles by rail at a very considerable expense. In the estimate appended to the copies of the correspondence the computed cost of the same quantity of iron, which was now 3*l.* 8s. 1d. per ton, would be when the company had its own coal 2*l.* 10s. 3d., indicating very clearly the great importance of making their own coal available, if not immediately, at any rate at some future period. Obviously it was desirable to connect themselves with their own coal, but whether that should be the first thing to be done was a matter of very grave consideration. There were other objects indicated in the letters, which were summarised in the report. Very considerable alterations were required at the works, in order to render the mills and forges adequate for the purpose of converting iron into the most permanently and profitable marketable condition. Additional coke ovens had also been pressed upon them. The letters also contain a most earnest appeal to the shareholders to come forward and subscribe the necessary further capital, an appeal which the board most heartily endorsed, as they would thereby be enabled to realise the prospects beginning to dawn upon this undertaking. (Hear, hear.) The directors would be the last people to endorse this appeal if they did not fully believe the position of the undertaking was one in which, with an expenditure by no means large, shareholders would secure permanently remunerative returns. The works were turning out a large quantity of merchantable iron, and their means of production should be increased so as to supply the other thriving colonies. He thought, therefore, it was not too much to say if these works were put into a position to turn out a large quantity of iron at a moderate cost they would be able to supply the demand far beyond the range of their own immediate colony. The last letter was as follows:

"Mr. Lawson has only been working half-blast, owing to the difficulty in getting trucks to convey the limestone from Marulan, which has now been remedied, and also to the short supply of water, in consequence of the long drought: from Jan. 1 only 3 in. of rain has fallen, the dry weather has continued longer than has ever been known before, this delayed the starting of the works for some time; there are now signs of its breaking up. With a good supply of water he hopes to reach a production of 200 tons weekly. A regular supply of coals is kept up, and the manager is gradually increasing the use of raw coal, so as to reduce the quantity of coke and the cost as well. Mr. Lawson speaks of the tramroad to Levick's seam, this is not absolutely necessary for the present, though highly desirable. What is wanted most is money to re-arrange the rolling-mill, and skilled labour, which the manager wrote for in his previous report. If this were done the pigs could be turned to profitable account, and the tramway made out of profits, which would thus be increased considerably by reducing the cost, and opening up a trade for the coal as well. In a short time Government will advertise for tenders for a large contract—the erection of new piers and jetties for the principal wharf, requiring between 3000 and 4000 tons of iron, representing a large sum. Mr. Lawson has carefully gone over the plans and specifications with Mr. Zollner, and he sees no difficulty in tendering for the supply of ironwork if the men are sent out promptly, and the rolling mill put to rights: though his estimate of cost seems much in excess of what it should be done for. Government would give the preference to a local tender presenting colonial prodnction. It is desirable that this contract should be secured if possible. By the last mail steamer to San Francisco, which sailed a week ago, the committee sent a trial shipment of 50 tons of pig iron, for the purpose of testing that market; as when the works were in operation some years ago, a considerable quantity of pigs was shipped to San Francisco, and found a ready sale at fair prices, and it is hoped that the present experiment will lead to a profitable trade. Samples of the iron have been sent to the various foundries here, and the report so far is highly favourable, but I hope to send you copies of their written reports by next mail. The pigs are now being forwarded from the works in quantities, and are being stored as before advised. The committee have arranged to obtain an advance of 70s. per ton, so as to keep the works going for a time, and enable the directors to furnish the requisite funds."

The directors believed if such funds were supplied the undertaking would in a short time be placed upon a sound and remunerative footing He believed that new prospects had opened upon the company, and that it rested upon themselves to avail themselves of the advantages; and the board trusted and hoped they would do so. No effort would be wanting on their part to attain the object in which they were all interested. He then moved the adoption of the report and accounts.——Mr. DYER seconded the proposition.

The CHAIRMAN, in reply to questions from Mr. WILSON, said the present condition of the arrangement with regard to the B shares adverted to in the last appeal for additional funds holders of six-sevenths had assented to the proposal; the holders of 1249 B shares had either expressed their dissent or not returned answers, but the directors hoped and believed the holders would feel themselves bound by the decision unanimously come to. The directors quite agreed in the absolute importance of utilising at some period their own coal, but it might be a question whether any funds available could be most profitably applied to that purpose now. They had very accessible to their works a large quantity of anthracite coal, which if mixed with the other would materially reduce the cost. As to the sufficiency of their engine power, that could only be satisfactorily answered by those on the spot, and the cost of the tramway had been conjecturally spoken of at about 12,000*l.*

Mr. FRASER (a member of the Australian committee) said that to get direct communication to their own coal mines would require a much larger sum than 12,000*l.*; he believed that the Sydney committee, with Mr. Lawson, had computed a sum of not less than 30,000*l.* to lay down a tramway to the mines, to remove the rolling-mills to another site, to reset them, and to supply additional steam power to enable them to make all descriptions of merchantable iron. The proprietors had to decide upon one of two courses—either to go on working the property with the coal obtained at a comparatively high cost, and to use such money as might be placed at the disposal of the committee for the purpose of removing and re-setting the rolling-mills, and adding such additional engine power as might be necessary, and in constructing requisite appliances enabling them to turn out merchantable iron; that would probably cost about 12,000*l.* or 15,000*l.*, but, assuming that 30,000*l.* were subscribed, 12,000*l.* of it could be set aside for the tramway. If the works were to be prosecuted it was urgently necessary that either the larger or the smaller sum should be raised. When he left the colony the working was progressing in a very satisfactory manner, all obstacles having been overcome; 130 to 150 tons of iron were being turned out weekly, and since then he had heard the quantity had been increased to 170 tons. There was no doubt whatever that the suspension of the demand for pig iron was only temporary. If they had the appliances to turn their pig into merchantable iron there were several colonies which would become their customers. The Government had virtually decided upon a considerable extension of the railway system, the result of which would be a very large demand for rails and all descriptions of iron. Supposing the company could supply the iron, they could at any time get an order from the Government for 20,000 or 30,000 tons to start with. The first point to which they should address themselves was altering the works and increasing the power, so as to enable them to turn the stock of pig-iron into merchantable iron; the pig-iron was rapidly accumulating when he left, the quantity on hand being probably 600 or 700 tons.

Mr. WILSON enquired if it was proposed to have an additional blasting-furnace?—Mr. FRASER said he did not come with professional knowledge, but merely such as he had been enabled to obtain in conversations with the committee and Mr. Lawson; but he did not understand that the 30,000*l.* included the construction of a new blasting-furnace. He thought that would be an independent matter; but the opinion was that the profits realised would enable them before long to erect one.

Mr. MCLAGAN, M.P., said he had never despaired of this company, although there was no doubt there had been thorough bungling at the commencement, but for which he believed they would be now receiving 15 per cent. upon the A shares. It was for them to try to retrieve that position. The last advice were really most satisfactory, so much so that he should have no delicacy in submitting the undertaking to his friends; indeed, he should now become a canvasser. Shareholders could now come forward with the necessary additional capital, and he would suggest that those who took the debentures should have the option of exchanging them for the shares. It was the duty of each shareholder to come forward and subscribe for the debentures. To enable the directors to obtain a contract from the Government the rolling mills must be put into order. The first thing for them to do was not to mind about the 30,000*l.*, but to obtain the smaller sum of 12,000*l.*, to put these rolling-mills into order, and work the tramway out of profits. He was quite willing, as a director, to accept some responsibity and liability in trying to raise this money, so confident was he that it would be well spent, and soon returned with dividends to the shareholders. He hoped the shareholders would also show the same confidence in the concern, thus enabling the directors to carry out the work with vigour and success. Their prospects were bright, and he trusted they would soon have sufficient funds to do that which was so essential to promote their own interests.

The report and accounts were received and adopted. The retiring directors were re-elected, and also the auditor.

A vote of thanks to the Chairman and directors closed the proceedings.

SCOTTISH AUSTRALIAN MINING COMPANY.

The half-yearly general meeting of shareholders was held at the City Terminus Hotel yesterday,

Mr. ADOLPHUS W. YOUNG, M.P., in the chair.

Mr. GRAINGER (the secretary) having read the notice convening the meeting, the report of the directors was taken as read. Its purport is as follows:—

LAMBTON COLLIERY.—During the half-year ending Dec. 31 last the company's sales of coal amounted to 88,873 tons, and the net profit realised from the colliery in that period to 15,384*l.* 3s. 11d., as shown by the colliery profit and loss account, the necessary disbursements for maintenance and renewal having been made and charged to that account. The general trade of the Newcastle collieries has continued to make steady progress, their aggregate sales of coal for 1875 having amounted to 1,180,772 tons as against 1,079,368 tons in the preceding 12 months. The Government have recently effected considerable improvements in the harbour there for the better accommodation of shipping, and supplied additional appliances for the shipment of coal. They are carrying out further new works of a very important character, with the same object. The company's sales of coal in January last were 11,671 tons, which was a less output than there might have been, owing to the holidays usual at the commencement of the year. As regards the company's trade in February, the manager reports that as far as they had proceeded, up to the 22nd of that month, the sales had been well maintained. From the depressed state of the iron and coal trades, and the low rates of freight at present prevailing in this country, however, it is not possible to form a very confident opinion as to the condition of the coal trade of the colony in the early future; it is reasonable to suppose that these causes may for a time adversely affect it; at all events in restricting to a certain extent the growing demand for coal there for foreign markets.

The half-yearly report received from Mr. Croudace, the company's viewer, is very satisfactory. The annexed accounts set forth the operations of the company during the six months ending Dec. 31, 1875, and exhibits its position at that date. The balance of profit shown by the general revenue account is 15,243*l.* 12s. 1d. This does not include any portion of the premium received on the new shares, which will fall to be dealt with in the accounts of the half year now current. The directors propose the payment of a dividend at the rate of 15 per cent. per annum on the paid-up capital of the company, payable on the 20th inst., free of income tax, which will require 10,500*l.*; to add to the reserve fund (which will then amount to 7000*l.*), 1000*l.*; and to carry forward to next account 3743*l.* 12s. 1d.: total, 15,243*l.* 11s. 1d.

THE CADIA PROPERTIES.—Mr. Morehead, the manager, on being advised that that additional capital had been provided for the purpose, has lost no time in initiating arrangements with a view to turn these properties to account. He advises his having engaged the services of Capt. Josiah Holman, and taken such other preliminary steps as were necessary with that object. Capt. Holman has for some years been the manager of the well known Peak Downs Copper Mines in Queensland, an appointment from which he was to retire on the 30th of last month in order to proceed and take up his residence permanently at Cadia, and commence and prosecute operations there on the company's behalf, in pursuance of plans for some time matured, and in a careful and economical manner, for both gold and copper. The directors expect, therefore, to be in a position ere long to communicate to the shareholders information of a definite character on this matter.

COPPER PROPERTY IN QUEENSLAND.—Operations at this property since the last meeting was held have chiefly consisted in further opening it up by the employment of a small number of men, and completing some necessary surface arrangements, so that not much additional ore has as yet been raised. A furnace to convert the ore into regulus was being erected, and Capt. Holman, on his way from Peak Downs to Cadia would again carefully examine and report upon the property in its present condition, and draw up such a plan of future operations as in his judgment shall be most suitable for effectively working it.

STOCKTON.—The manager up to the date of his most recently received letter had not arrived at a fixed decision to commence operations on this coal field, but he states that he feels "the question of dealing with it to be one of increasing importance."

LAND AT NEWCASTLE.—This land has now been reclaimed from the shifting sand, and laid out in allotments for building purposes. The first sale of a portion of it was to take place in February last. The manager observes—"We do not propose to put many of the allotments on the market just at once, but our auctioneer encourages us to expect to realise the property gradually at profitable prices. The demand for building sites in and around Newcastle has recently become very active, and at enhanced prices."

The CHAIRMAN, in moving the adoption of the report, observed—The sales of coal for the past half-year have amounted to 88,873 tons, against 56,131 tons for the corresponding period of 1874. This is to be attributed to the company's participation in the general increase of the demand for Australian coal and to a satisfactory improvement in its own particular trade, owing to the measures adopted by those in the management for keeping up the condition and reputation of the coal and introducing fresh customers. The profit realised per ton has been 3s. 5¼d., against 2s. 11d. per ton in the corresponding six months of the preceding year. The increased profit is not obtained from any enhancement in price, but from economy in working caused by improvements effected by Mr. Crondace, the viewer, and by the larger vend, causing the fixed charges to bear a smaller proportion to the cost per ton than is the case with a smaller output. Ample provision has been made for keeping all machinery and rolling stock and plant of every kind in thorough working order, and providing for the unavoidable wear and tear incidental to such things. The viewer, in his last report, writes in a very congratulatory tone about the state of the colliery, not only with regard to the immediate present, but, looking forward to the future, he considers the works he has in hand and in view will keep the colliery in excellent working condition for many years to come The question of the colonial coal trade in the early future is one of some little uncertainty. On the one hand we have the extremely distressed condition of the coal and iron trades of this country, and low freights making it possible to ship coal to eastern markets at very cheap rates, and so lessening the demand for Australian coal for those markets; on the other hand, there is the growing demand for the colonies themselves, which is going on in a very steady way from year to year, and which will always take off a considerable quantity of coal for steam, household, and gas purposes; and between these two important features affecting the trade, it seems not unreasonable to think that it will be pretty well maintained, although an active and important increase is not to be expected until trade improves in this country. So far as the advices for the current half-year have been received Lambton has done very well, 11,671 tons having been sold in January and 15,210 tons in February, and the manager reports that for March the trade was holding on very well, and there has been no change in price. As regards the company's operations at Cadia, and the copper property near Rockhampton, there is at present nothing

further to be said that is stated in the report. The new capital was taken up in January last; and as the latest advices only bring dates from Sydney to March 18, there had not been much time for carrying out mining operations. Mr. Morehead had, however, appointed Capt. Josiah Holman to take charge of Cadia, and to visit and report upon the Queensland property, which he was engaged in doing. He had already made arrangements for putting up water machinery for economically testing the gold quartz at Cadia, and for the erection of a smelting furnace for reducing the copper ores at the Queensland property to regulus. Mr. Shannon, the sub-manager, has also been sent to the latter property to inspect and report upon the general progress of matters there. The board hope to receive further intelligence before long. Mr. Morehead is dealing with these properties in an economical manner, and does not anticipate that they will require any great outlay in order to bring them into a productive condition. There is a considerable quantity of ore ready for treatment as soon as the furnace shall be finished. The building ground at Newcastle has been brought into a condition for making it available for building purposes, and it is expected that the demand now existing for this class of property in and near Newcastle will lead to the making of favourable sales.

Several shareholders having made enquiries, which were answered by the Chairman, the following resolution was carried unanimously:—"That the report of the directors be received and adopted, and that a dividend at the rate of 15 per cent per annum on the paid-up capital of the company (140,000*l.*) be declared, the same to be payable, free of income-tax, on and after Saturday, May 20."

Resolutions re-electing A. W. Young, Esq., and Sir Charles Wetham, the retiring directors, and Mr. James Roberts, the retiring auditor, and for increasing the remuneration of the directors, were then passed, and the meeting separated after passing a cordial vote of thanks to the Chairman, directors, and manager.

VANCOUVER COAL MINING AND LAND COMPANY.

The annual general meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Tuesday,

Mr. JOSEPH FRY in the chair.

Mr. SAMUEL M. ROBINS (the secretary) read the notice convening the meeting.

The report of the directors stated that for the six month ending Dec. 31, 1875, the profits amounted to 4034*l.* 3s. 8d. The quantity of coal shipped and sold amounted to 21,378 tons, and the output to 27,126 tons.—Douglas Mine: Both the No. 4 and No. 5 levels were driven during the six months with but few interruptions (chiefly caused by imperfect ventilation), the former in coal of more than average thickness—3 ft., and the latter in coal varying from over 5 ft. down to 2 ft. 9 in. An exploratory drift was commenced to the dip of No. 5 level for the purpose of opening a No. 6 level, and excellent progress was made in coal, clean and hard, exceeding 5 ft. in thickness.—Park Head Adit Level: This level was not completed as anticipated, a piece of rock having been met with which seriously delayed the work; very little, however, now remains to be accomplished.—Lower Seam Exploration: The result of the sinking of bore-holes in the several drifts to the third seam was not sufficiently favourable to induce the managers to continue explorations in this mine. At a future time, however, should it be found that a workable seam of coal underlies the lowest point yet reached much time and labour will be saved by utilising the work already done.—New Douglas Mine: The shareholders have already been made acquainted with the rapid progress in opening up this new mine. During the six months the levels, slope, and airways were pushed forward with scarcely a hindrance. The coal, of which nearly 3000 tons were produced previous to Dec. 31, has since been tested at Victoria and San Francisco, as well as by steamers coaling at Nanaimo, and in every instance a favourable report as to its quality has been received. Until the new engine is erected the produce from this mine cannot be large. In the meantime the slope and levels will be driven night and day, and the necessary rolling stock and other appliances will be shipped by the first opportunity.

Mining on Newcastle Island—Fitzwilliam Mine: The greatest part of the half-year was occupied in grading the diagonal slope road, and it was only in November last that its sinking was resumed: 100 yards have since been driven in coal of good quality, but a roll in the roof has for the last few yards cut out the top of the seam, leaving only 3 ft. of sound coal.—Newcastle Mine: From this mine 349 tons of coal were raised during the half-year, but owing to the heavy cost of mining, and the difficulty of keeping the water under, the work has been discontinued.

Diamond Boring Machine Coal was struck by the machine at a depth of 497 ft. on Jan. 15. The thickness of the seam was reported to be 9 ft., and the coal core extracted was of fair quality. It is thus proved that coal exists beyond and to the east of the Great Pitch, but it has still to be determined whether to win it from the old Douglas workings or by means of a new shaft. Whichever plan may ultimately be adopted, nothing will be decided upon until the exploration of the New Douglas Mine is further advanced, when a far better knowledge of the structure and extent of the whole Nanaimo coal basin will be gained. Before dispatching the Diamond borer some uncertainty was felt as to its being adapted for piercing the hard conglomerate found in many parts of the company's estate, but the recent trial shows that it penetrates the hard sandstones and the conglomerate with equal ease. The next bore-hole will be put down on Newcastle Island to test the ground in advance of the diagonal slope road.

Land Sales: Town lots to the value of 1676*l.* were sold during the six months. The amount collected from these and previous sales was 1832*l.*, which, subject to the usual deduction, has been included in the profits of the half-year. There still remains a sum of 2100*l.* due on land sales account. A valuation of the town site has been made by the managers, which shows that the amount previously written off was sufficient. Nothing, however, has at any time been written off the other portion of the estate, and it has been decided to set aside for the future 6 cents. per ton on the output of coal to form a sinking fund to meet the depreciation of the estate. The whole of the 6 per cent. debentures for which subscriptions were asked by the directors were applied for, and have been allotted to shareholders or their nominees. The directors recommend that a dividend be declared for the half-year at the rate of 10*l.* per cent. per annum, and they propose to take 95*l.* 16s. 4d. from the reserve fund to make up the necessary amount.

The CHAIRMAN apologised for the unavoidable absence of the Hon. Mr. Fitzwilliam, M.P., the Chairman of the company, owing to parliamentary duties. As to the report now before the meeting, it contained the whole of the details of the past half-year's operations. The result had not been so successful as anticipated, owing to the state of affairs at San Francisco. Everyone knew, and especially those connected with business, that commercial affairs all over the world had been in a very depressed condition. San Francisco in the early part of the autumn was in a state of absolute panic, with everything nearly at a dead lock, and it was a perfect marvel that this company had done so well. But the trade was again improving, and freight was at a very low price, so a profitable and increasingly large trade was being done. The state of the mines was satisfactory—the old mine was as well as usual, and the new mine was a success. During the three months of this year 15,715 tons had been raised, as against 10,500 tons for the corresponding quarter of the previous year—an increase of 50 per cent. He need scarcely say they were doing an increasing and a profitable trade. Under those circumstances the board thought they were fully justified in trenching to a small extent upon the reserve fund, so as to keep up the regular dividend. The New Douglas Mine was a success from the time they commenced to make and drive the slopes; 3600 tons of coal had been raised during the last three months, 1600 tons of it during the last month. The coal was first-class in quality, and a letter received that morning spoke of it as follows:—"I am much pleased to say this coal takes well, and I hope to be able to sell all that comes down." It is a very valuable coal for gas, steam, and house use; that mine was a singularly successful hit. Their colleague, Mr. Wild, had been to the mines since the last meeting, and his report had been forwarded to each shareholder. He was sure the shareholders would agree with the board that it was a very desirable thing to send Mr. Wild, knowing the extremely valuable visit he made for the company eight or nine years ago. The Diamond borer had proved successful, as shown by the fact that under the old system 240 feet had been bored in 12 months, at a cost of 560*l.*, whereas 492 ft. had been bored by the Diamond borer in three months at a cost of 320*l.* He then moved that the report and accounts be received and adopted.

Mr. WILD (a director) seconded the proposition. He congratulated the shareholders upon the continued prosperity of the company, which had for many years given dividends of 10 per cent. per annum. Just after his first visit to Vancouver, in 1868, he remembered expressing an opinion that there should be no difficulty in making the property pay 10 per cent. Since then he had felt some qualms of conscience, because of extraordinary disadvantages which could not have been foreseen There had not been a more difficult coal field to work in the whole world, and it was difficult to ascribe to any one cause why it was the output had not been considerably increased. It was well known that if the output were increased 50 per cent. the concern would gradually become a much better paying one. He had always been inclined to attribute the misfortune at the Old Douglas pit to a very curious formation; the coal took a sudden declivity from a grade of 1 in 5 to an almost vertical pitch. This had been a great drawback and the misfortune had much impeded their progress, at the same time that it increased the expenses. The diamond borer was first used east of the pitch that is on the sea side of the declivity alluded to. That after such a great distortion the coal was there at all, and a better coal too, was very satisfactory, but what they now wanted to do was to ascertain the area of coal below this pitch, and with that view it was proposed to use the diamond borer in other directions. It may be that they might find below this pitch the greatest area of coal the estate possessed. The new mine was a continuation of the old one just described, and at the next meeting they would probably have to speak of a continuous level running north in the new and south in the old mine. The coal in the new mine was more regular, which was evidence that the further they got from the pitch the better would become the seam. He had come to the conclusion from a personal inspection of the seam that the average of the seam worked during the last ten years had not been more than 2 ft. 9 in., and by reason of the vertical nature of the seam the coal sent to market had often been in a very broken condition, and sometimes was unmarketable. They spoke in the report of the Fitzwilliam, but they almost had a right to claim it as a new mine; the coal of the original mine was almost nipped out, but fortunately it continued at one part, and it was a matter of great astonishment that it had opened out so well again. The Old Douglas, New Douglas, and the Fitzwilliam were mines upon the upper seam. The lower seam was called Newcastle. The town was very prosperous. He had the highest respect and confidence in their officers, and had always tried to impart that feeling to his brother directors.

In reply to a question from Mr. TENDRON, Mr. WILD said that Mr. Bryde had as much as guaranteed an output this year of 60,000 tons.

Mr. TENDRON was pleased to have heard such an encouraging statement from Mr. Wild as to the future, as it supported his (Mr. Tendron's) opinion among those who had held their shares.

The report and accounts were received and adopted.

Upon the proposition of the CHAIRMAN, seconded by Mr. HILL, a dividend at the rate of 10 per cent. per annum was declared.

Mr. TENDRON proposed the re-election of the retiring directors.——Mr. HILL seconded the proposition, which was put and carried.

A vote of thanks to the Chairman and directors closed the proceedings.

WHEAL CREBOR COMPANY.

The general meeting of shareholders was held at the offices, St. Michael's House, yesterday,—Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. C. B. PARRY read the notice convening the meeting, and the minutes of the preceding one having been read and confirmed, the agent's report and statement of accounts, showing a balance of assets over liabilities of 373*l.* 7s. 1d., were submitted.

May 11.—I beg to hand you my report of the above mine for the meeting to be held to-morrow (Friday). At the 120 we have for some considerable time been driving east on a wall somewhat similar to that we drove on at the 108 east before it reached a large lode, but as the lode is still small I have put the men to drive south to prove whether the main part of the lode is in that direction. The lode in the 108 east is 3 ft. wide, composed of quartz, capel, mundic, and a little yellow copper ore. The lode in the 72 east is 4 ft. wide, of a very promising character, and letting out a large stream of water, but as yet is unproductive. The lode in the 48 east is 6 ft. wide, 2 ft. of the north part of which is worth 10*l.* per fathom, and looking promising for further improvement, as the orey part appears to be opening out wider as it goes east. The lode in No. 1 stope, in the back of the 48, is 8 ft. wide, and worth 15*l.* per fathom. The lode in No. 2 stope, in the back of the same level, is 6 ft. wide, and worth from 35*l.* to 40*l.* per fathom—a fine course of ore. We have now on the floors dressed, towards the next sampling about 110 tons of good quality ore, and hope to get from 240 to 250 tons by the end of three months, besides 70 to 80 tons of mundic, which will leave a good profit on the quarter. I am very pleased to say, on the whole, the mine is looking very well. —JOHN ANDREWS.

The CHAIRMAN explained that it was the custom in that company to charge up all they paid before the meeting, so that in the accounts now presented they had four months' costs against three months' returns, which showed an apparent loss of 173*l.* 8s. 5d. He considered this was the proper way of preparing accounts; but he thought it should be explained that they had 110 tons of ore on the floors produced by the costs already paid. The estimated value of this ore was 400*l.*, so that it would be understood there had been no real loss, but actually a fair profit. They would next quarter show a profit of from 400*l.* to 500*l.* He should also mention that the 738*l.* for copper ore sold was not yet in hand, nor had they the bills, but they would be received in a day or two.

The report and accounts were then unanimously received and adopted.

A SHAREHOLDER enquired the present position of the new lease.

The CHAIRMAN said they had had the lease there, and he and Mr. Emanuel had gone through it clause by clause with Mr. Childs, their solicitor. The result was that they had made several objections, or perhaps he should say stipulations, and he was glad to say that these had been fairly met by the Duke's agent. One of these he might mention was that they should spend 20,000*l.* out of the profits in opening up the side lodes, but this had now been altered so that it would only apply after 25,000*l.* had been distributed as dividends to the shareholders.

Several shareholders expressed themselves thoroughly satisfied with the position and prospects of the undertaking, and a cordial vote of thanks having been given to the Chairman, the meeting separated.

CENTRAL VAN LEAD MINING COMPANY.

The third ordinary meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Wednesday,

Mr. F. E. BINGLEY in the chair.

The SECRETARY read the notice convening the meeting.

The report of the directors regretted that owing to the limited amount of capital at their disposal they have not been able to proceed with the development of the mine so rapidly as they could have wished. The sinking of the engine-shaft, now about 72 fms. from surface, has been suspended for awhile, but the deep adit has now been driven 137 fms. from the south base of the hill, and has passed through an east and west lode several fathoms wide, which although not productive for lead at the present depth of 20 fms. will, it may be expected, prove so when greater depth shall have been attained. Although the directors do not pronounce this to be the Van lode, they know of no reason why as a parallel lode, and in the same stratification, it should not (as in the case of the three rich parallel lodes at the great Dyliffe Mines) prove equally as productive as the one at the Van. For some time the chief operations at the mine have been limited to driving on a very promising caunter lode, which, according to the manager's report, will shortly form a junction with the east and west lode above referred to. And they are led to hope from the statement of the manager and other competent authorities, that when that point has been reached an important discovery will be the result. The directors have noticed with satisfaction the recent important discoveries at the East Van and the Glynn Mines, which have very considerably enhanced the market value of those properties. When it is borne in mind that the East Van Company, although possessed of ample capital, had been at work for several years longer than the Central Van before they made any discovery, and that operations at the Van had been going on for about eight years before its riches became apparent; it is hoped that the shareholders will take courage and support the directors in their efforts to obtain the additional capital which is absolutely necessary to proceed with the works to a successful issue. It will be seen from the balance-sheet that there are about 800 shares still unallotted, but as the shareholders may not be willing at present to subscribe for these, the directors determined to issue debentures in bonds of 50*l.* each for three years, bearing 12 per cent. interest., thus offering an undeniable security, together with the option of converting them at any time within that period into ordinary shares, which in case of a discovery would speedily attain to a considerable premium. Upwards of 1200*l.* has already been subscribed on these terms, and it will be gratifying to the directors, and no doubt to the shareholders also, if at the forthcoming meeting it can be announced that the whole amount required has been obtained.

The special report of Capt. A. Francis, Old Hall, Halkyn, Holywell, advised the shareholders to hold their property, and for the present comply with the conditions of the lease by the smallest possible outlay—that is, until circumstances warrant vigorous action. He believes that at no distant day the Central Van will be valuable.

The CHAIRMAN said:—Before moving the adoption of the report and balance-sheet, which, as they have been circulated amongst the shareholders you will probably take as read, I will briefly refer to a few points that may seem to require explanation. The engine-shaft having been sunk to a depth of 72 fms., it was deemed advisable to cross-cut north, with the view of reaching the Van lode. When about 50 ft. had been driven what was believed to be the south wall of that lode was met with, and the cross-cut was continued for several feet, but not far enough to reach the north wall, which is the productive part of the Van lode. We found that we were approaching our northern boundary at that point, and, calculating the distance of the end of the cross-cut from the shaft, it was found that we should have to sink a good many fathoms deeper before we should find the lode in the shaft. Our funds being then limited, we decided to suspend for awhile all operations at the shaft, and to proceed with the Llewynlys deep cross-cut. To show you that we were justified in adopting this course I will read you an extract or two from the reports which appeared in the original prospectus. Captain Frank Evans says—"The Van lode dips into the Central Van, and it is believed there are other lodes also, which, if properly searched for, would give additional value to it." Captain James Roach, the able manager of the Van Consols and the Glyn Mines, states—"The other parts of Llewynlys, together with the common lands you have lately obtained, form a considerable area, and I believe a parallel lode or lodes will be found therein. The chances are that discoveries of ore of great importance would be met with. The Van lode at certain points would also be reached from this direction." Mr. Henry Dennis, of the Minera Mines, after stating that the engine shaft would pass through the Van Mine vein at 80 to 100 fms. deep, says—"There are other important lead ore veins running through the property, south of and parallel with the Van lode. The outcrop of the Van lode traverses the northern boundary of your property for nearly ¼ mile, and as the underlie is to the south, it will in depth pass through your property for the whole of this distance." Now, gentlemen, the deep adit has been driven 137 fms. from the south base of the hill, and two caunter lodes and one large east and west lode have been met with, and our present operations are being carried on on the No. 2 caunter lode in the expectation of making a discovery at the junction of that lode with the east and west lode, and, according to the reports of experts whose opinions are entitled to respect, such a result may fairly be expected. I am perfectly aware that the time appears long before we arrive at that success which we hope for, but we must bear in mind that our two wealthy neighbours had much longer to wait. At the East Van I think some seven or eight years expired before any discovery was made, and at the great Van itself an equally protracted period elapsed before that mine could be pronounced really to be an undoubted success, and it has often been said the Van was so nearly being abandoned that if the present intelligent manager, Capt. Williams, had not successfully urged the owner of it to provide one month's more cost, or allow him to do so, it is highly probable that the thousands of tons of lead that have been raised from that mine would not have been discovered to this day. Let me urge you, gentlemen, to persevere in a like manner, and I believe you will ultimately be rewarded for doing so. Unfortunately for mining enterprises like this we have been passing through a long period of almost unprecedented depression. The great collapse of foreign mines, and more especially the gigantic failure of the Emma, have contributed largely to the distrust and prejudice which so materially affect the development of our home mines. But with a plethora of money seeking employment at 1 or 2 per cent. this cannot last long. It would, indeed, be marvellous if the rich mineral deposits of England and Wales were allowed to remain dormant when, instead of 1 or 2 per cent., 10 or 20, and even 50 in some cases, may be gained as a return to the investor, besides the great advantage in a national point of view that would result from such investments. If men of intelligence and capital would divest their minds of this unreasonable prejudice, and bring to bear upon the development of our British mines some of that capital which they have been too ready to embark in foreign enterprises the result would be astounding. For depend upon it in yonder hills and mountains of Cambria, beneath the slopes and valleys of Yorkshire, and in the not yet exhausted mineral districts of Cornwall, there are sources of untold wealth, which require only capital and enterprise, combined with ordinary skill and prudence, to develope to such an extent as would help materially to raise this country from its present unnatural state of gloom and despondency to its far more normal state of affluence and prosperity. I am ready to admit, gentlemen, that there are some things to be said in justification of the prejudice to which I have alluded, but they will, I trust, soon be remedied—such, for instance, as a strong disinclination to adopt new appliances for expediting the working of mines, and more efficient and economical machinery for dressing the ore. But I honestly believe that one of the main causes of failure in mining operations is the want of sufficient capital. For I speak from painful personal experience when I say that it is a great mistake to commence working a mine without sufficient capital; but once secure this, and exercise ordinary commercial sagacity in the selection of your properties and the appointment of officers and workmen, and I venture to assert that there can be found no more legitimate or profitable channel of investment than British mines, and especially British lead mines. One word more, gentlemen, as to the future of the Central Van. This will probably be the last time I shall address you as Chairman of the company, I would, therefore, urge you 'and the shareholders generally to stick to this property; subscribe for the small amount of debentures required, and I firmly believe that at no distant period you will have substantial reason to be satisfied that you have done so I may add that, independently of the riches you may yet discover in this property, its relative position to the two important mines adjoining will always secure for it a considerable value, which, sooner or later, is sure to be recognised. I now beg to move the adoption of the directors' report and balance-sheet.

The motion was seconded by Mr. WHEELER, of Liverpool.

Mr. ARTHUR drew attention to the amount of directors' fees.

The CHAIRMAN explained that with the exception of the amount of 80*l.*, which was due in December, 1873, the directors had relinquished all claim to fees, both those which had since accrued, or were nominally accruing, and that in fact the directors would do their work gratis till such time as the mine was a success, when they would trust to the generosity of the shareholders to recompense them for their time and trouble. Meanwhile the 80*l.* would be carried to a suspense account till the success of the mine.

Dr. GIBBON said that after this statement of the intentions of the directors he hoped the shareholders would also put their shoulders to the wheel and support the directors in the efforts they were now making. Central Van was between Van and East Van; the permanent improvement in the former, and the discoveries at the latter, had enhanced the value of the Central Van. Now, what it had been decided to do was to raise 4000*l.* in debentures of 50*l.* and 25*l.* each, with the option of converting the same into shares at any time within three years. The directors and their friends had raised upwards of 1200*l.*, and he now invited the shareholders to subscribe for these debentures, and not to relax their efforts till the mine had been thoroughly done justice to. By coming forward now they would assist the directors, and he did not think they would have any cause to regret it.

The motion for the adoption of the report and balance-sheet was then put and carried unanimously. Major Suart and Mr. J. W. Fitzgerald, the directors retiring by rotation, were, on the motion of Mr. J. C. M. NAUGHTON, seconded by a shareholder, re-elected. The election to the board of Dr. S. Gibbon, of London, and Mr. G. Hargreaves, of Liverpool, was also confirmed, and Messrs. T. S. Evans and Co., the retiring auditors, were unanimously re-elected.

THE MONTPELLIER SILVER-LEAD MINING COMPANY (ISLE OF MAN).

The first statutory meeting of shareholders was held on Tuesday, May 2, in the company's offices, Deansgate, Manchester,

Mr. JAS. CAULFIELD (the chairman of the company) presiding.

Mr. J. E. GALLIFORD (the secretary) having read the notice convening the meeting,

The CHAIRMAN said: The object of our meeting this day is to place our company upon a legal footing in accordance with the Act of Parliament, also to elect a board of directors, as stated in the prospectus. We are not met here to transact any financial business. Your secretary will now read the last report from Mr. John Woolcock, of Kirk Michael, our manager at the mine.

The SECRETARY then read the report, as follows:—

April 29.—Operations at the mine have been the clearing out the adit level and retimbering the same, which is now 15 fms. I am pleased to inform you that we have met with good stones of silver-lead ore, and some nice spar, which seldom fails in producing ore when it is mixed with silver ore and copper. I expect by the end of next week we shall reach the forebreast, when we shall be ready for driving. The timber was all decayed so far; but in a few days we shall have a good level all the distance - 22 fms. I may tell you that we have a beautiful crystallised spar in the adit level, as much like the Great Laxey spar as any I ever saw, also nice stacks of silver lead ore. On Wednesday last we succeeded in getting all the water out of the shaft, which is about 10 fms. deep, and are now driving on under the river. We have also nice samples of ore from this point. This day I have just come from underground, and had a kibble of stuff sent to surface, which is disseminated throughout with lead and blende. I expect to begin to breast ore at the bottom of the shaft this week. The mine is now so far opened that I would advise an independent inspection.—JOHN WOOLCOCK, Manager.

The CHAIRMAN continued: I think the report from our manager clearly shows that we have a very valuable property, and a mine of no ordinary merit; considering the short time we have been at work the results are most encouraging. We have no less than 500 acres of mineral ground for the small sum of 2000*l.*, one-half in cash and one-half in fully paid-up shares. The company has been formed, not as many have for the sake of promotion money, but to work and develope the mine. It will, therefore, be the duty of those whom you may place in office to carry out the work with spirit, but with a careful regard to economy. Not a penny has been paid for promotion money, nor have any shares been allotted that have not been paid for. I have always had great faith in this property, and feel still more confidence after reading this week, in the *Mining Journal*, a paragraph on the Great Laxey Mine, which, you are aware, is at no great distance from the Montpellier. It is as follows:—

SUCCESSFUL LEAD MINES.—At the Great Laxey the Chairman announced that the profits enabled the directors to declare a dividend of 10*s.* per share, or 50 per cent. upon the capital of the company, besides carrying forward 1000*l.* to the reserve fund, which now amounts to 6500*l.* Last year alone the sums distributed amongst the shareholders and paid to the reserve fund amounted to 31,000*l.* The day before the meeting at which these announcements were made the company sold 100 tons of lead for 2357*l.*, and the day after they sampled another 100 tons. Adverting to the general history of the company, one of the directors stated that 13 years ago the company started with a capital of 60,000*l.* They had since given to the shareholders 19*l.* 13s.—say, in round numbers, 20*l.* a share, that is 300,000*l.*, and as shareholders like always to see their property standing well in the market, Great Laxey is now standing at something like another 300,000*l.*, and therefore in 13 years that for which they gave 60,000*l.* they have received 300,000*l.*, and the market value is another 300,000*l.* In other words, they have received 600,000*l.* for their 60,000*l.*

The CHAIRMAN further remarked: Capt. Woolcock reports that we have crystallised spar in the adit level more like the Laxey spar than any he has seen. This is satisfactory, considering that at present our workings are only surface workings. Our secretary informs us that the venture is very favourably received in the island, and that a large number of shares are promised to be taken up. Having nothing further to say, I now, gentlemen, place my resignation in your hands.

The provisional directors having also resigned, Mr. HARRISON, one of the shareholders, took the chair, when Mr. Jas. Caulfield was unanimously elected as chairman of the company and of the board of directors, and Messrs. T. Partington, George Harrison, and W. T. Breedon were unanimously elected directors in conjunction with Mr. Caulfield. The meeting then adjourned.

AMBROSE LAKE TIN AND COPPER MINING COMPANY.

The fourth annual ordinary meeting of shareholders was held at the offices, London Wall, on Friday, May 5,

Mr. JOSHUA MOSS in the chair.

Mr. WM. EATON (the secretary) having read the notice convening the meeting, the directors' and agent's reports were read by Mr. J. TAYLOR, as follows:—

DIRECTORS' REPORT.

Since the last annual meeting considerable progress has been made in the development of the mine. The Wheal Sisters lode (from which in the adjoining mine over 170,000*l.* worth of ore was raised and sold) has been cut, and found to be a productive copper lode. To accomplish this a large expenditure was necessarily incurred, as two cross cuts had to be driven to the lode—one from the adit level, the other 14 fms. below the adit. In the level driven from the deeper cross-cut the ore is found much better in quality and in larger bodies than in the higher level, and it has every appearance of becoming richer in depth. The shaft is sunk about 55 fms., and a cross cut 14 fms. below the present working could be at once commenced and driven up at a small cost. When the lode was cut at this depth stoping ground would be laid open, and the mine placed in a good condition for making regular returns of ore, and it is believed that it would at once become dividend paying. The ore is found to contain arsenical mundic in considerable quantities, which, at the present price of arsenic, will pay well. Six kilns have been erected for the purpose of burning it. Since the lode was reached over 86 tons of copper ore and about 12½ tons of arsenic have been sold. A few months since your directors obtained a lease of the Tin Valley set, with burning ovens, chimney-stack, buildings, &c. On this mine there is a large quantity of arsenical mundic at surface which would pay for refining, but the capital of the company being already exhausted, the board thought it necessary to take power to issue 1000*l.* 2*l.* preference shares. Before taking this step they had samples of the ore assayed by a practical chemist, and an estimate given of the cost of refining and reducing it, and it is clearly shown that very large profits can be made. The works required to effect this are estimated to cost from 1200*l.* to 1500*l.*, and it remains for the shareholders to say for what amount of the necessary capital they will subscribe, as it is quite clear that, notwithstanding the very satisfactory prospects of the mine, and its apparently near approach to a dividend paying position, the work must stop unless further capital be at once raised. A number of the preference shares have been applied for, but not sufficient to warrant your directors to allot: they therefore urge their fellow-shareholders to apply at once for the remainder, and thus save a valuable property from being sacrificed, and the results of their outlay being taken advantage of by others who have expended nothing towards the development of the mine.

AGENT'S REPORT.

May 1.—I beg to submit to you my report of what has been done throughout the mine in the 14 months ending Dec. 31, 1875. The 14 fm. cross-cut has been driven

north 29 fms. 1 ft. 10 in. On driving 9 fms. 1 ft. 3 in. it intersected the middle copper lode. This lode has been opened on 34 fms. 4 ft. 9 in. A winze has also been sunk and a communication made from the deep adit to the 14, which has laid open the ground for stoping, and ventilated this part of the mine. The cross-cut has been continued 20 fms. 0 ft. 7 in. further north, and intersected the Wheal Sisters great lode. This lode has also been opened on east of the cross-cut about 14 fms. 4 ft. 6 in., and a winze sunk on its course from the deep adit to the bottom level. Throughout this drivage and sinking the lode has been large and masterly, producing copper, mundic, and tin. Several parcels of ore have been sent to market, and several tons of arsenic have been sold, also a small quantity of tin. All the pitwork in the shaft has been taken to surface, and larger pumps put down. On reaching the great lode the water very much increased, and I am of opinion we have all the water from the old Wheal Sisters coming through at our bottom level, and the old mines dry. At surface we have taken out ground and laid down new dressing-floors for copper ore, and have also taken out the foundation and put up six new arsenic kilns, with a large run of walled flues, chambers, &c. This is in full working order, and monthly returns of arsenic are now being made.

May 2.—Since Dec. 31 the bottom levels have been extended east and west on the great north lode, and throughout all the drivage it has been of a most promising character; it is from 2 to 8 ft. wide, composed of peach, quartz, copper, and abundance of mundic, with a little tin. This is the trunk lode of the district, and thousands of tons of copper have been sold from the adjoining mines, and a great many tons of tin. The lode in our bottom level, driving west, is 2 ft. wide, and much the same as last reported on. In driving east we have intersected a large cross-course, which has heaved the lode north; we are daily expecting to meet with it east of the cross-course, and I am of opinion we shall find it a good lode for copper and mundic, and the cross-course itself is producing very rich stones of copper ore. On this lode we have laid open a great many fathoms of ore ground, and the stope now working in the back of the bottom level is producing its usual quantity of copper and mundic. On the middle lode we are driving west at the 14 fm. level; here the lode has very much improved for copper, now worth 2½ tons per fathom. In this level we have a good course of ore gone down, and I would again recommend driving a deeper level from the engine-shaft to intersect those two lodes. I am quite convinced that we are just on the top of large courses of copper ore. Our bottom level is only about 30 fathoms from surface, and not so deep by 10 fathoms as where they first found the ore in the adjoining mines. We are preparing another parcel of ore for market, and have about 12 tons now on the floors, and about 14 tons of arsenic, which I have to-day received the tenders for. If reducing-works were erected we could make our arsenic worth 14*l.* per ton; the cost of refining it would be 25*s.* per ton. We should also save all our low-price copper ore and make it marketable, while it is of no value to us now; we have hundreds of tons of low-quality stuff now on the floors which would then be made marketable.—P. TENBY.

Mr. J. TAYLOR, in reply to Mr. Hernage, said that after cutting the Wheal Sisters lode the water interfered with them very much, and stopped the work for some little time; but they had put down new pumps, and now had no trouble whatever with it. During the very wet weather the water from the adjoining mine came into this one, but they had mastered that now, and the mine was, comparatively speaking, dry.

The CHAIRMAN: Our report to-day, gentlemen, is a very discouraging one, but it also gives very great encouragement; it shows that we have not been working in vain. We have all but positive proof—in fact, I think I may say we have positive proof now—that a little more expenditure would secure for us a very rich property. We not only have the workings developed in opening the mine, but we have also a very large amount of matter upon surface, which if reduced would produce a very handsome sum at a very good profit. But in order to secure the prize which we have so nearly at hand it is necessary that we should at once have an increase of capital, and I do hope that the shareholders will see the importance of that, and be prepared to furnish a sufficient amount of capital to secure to ourselves the great prize which we think we evidently have before us. I have now to propose the adoption of the reports, which have been read, and the balance-sheet.

The motion was seconded by Mr. MEGINN, and carried unanimously.

Messrs. G. Hardey and J. Meginn were then re-elected directors, on the motion of the Chairman, seconded by Mr. HERNAGE.

Mr. Baxter was re-elected auditor, at the same remuneration as before (10 guineas), and the meeting closed with a vote of thanks to the Chairman.

DOLCOATH MINING COMPANY—THE BORING MACHINE.

The three-monthly meeting of adventurers was held at the mine, on Monday,—Sir F. M. WILLIAMS, Bart., M.P., presiding.

It appeared from the accounts that the tutwork and surface labour cost and wages for the month ending Feb. 19 amounted to the sum of 2163*l.* 14*s.* 2*d.*; for the following month, 2083*l.* 3*s.* 2*d.*; and for April, 2118*l.* 18*s.* 7*d.* The tribute cost during the same period has been 1071*l.* 4*s.* 3*d.*; the merchants' bills, 3256*l.* 6*s.* 5*d.*: and parish rates, 160*l.*: making a total of 10,793*l.* 10*s.* 11*d.* The credits were, for 295 tons 16 cwts. of tin ore, after deducting 649*l.* 18*s.* 4*d.* for dues, and adding 14*l.* 4*s.* 1*d.* for the extra carriage of tin, 12,346*l.* 10*s.* 11*d.*, leaving a profit on the three months' working of 1553*l.* 4*s.* 4*d.* The committee recommended the payment of a dividend of 7*s.* 6*d.* per share, amounting to 1611*l.*, leaving a credit balance of 134*l.* 7*s.* 9*d.*, as against 192*l.* 3*s.* 5*d.* brought forward at the last meeting. The agent's report was as follows:—

The engine-shaft is sunk 7 fms. under the 326. The south part of the lode on which we are sinking produces a little tin, but the best part of the lode is standing to the north of the shaft. When last cut into that part was worth for the length of the shaft (12 ft.) 120*l.* per fathom; and, judging from a hole which we have just had bored into it at the deepest part, we believe it to be still of the same value. The 326, east of engine-shaft, is worth 40*l.* per fathom. The 326, west of engine shaft, is worth 65*l.* per fathom. New east shaft is sunk 2½ fms. under the 314; the lode is worth for 9 ft. long 30*l.* per fathom. Old sump shaft is holed to the 314, and prepared for drawing to that level. We are now cutting ground for plat, and shall shortly commence to sink deeper in a lode worth for 9 ft. long 30*l.* per fathom. The 314, west of old sump, is worth 20*l.* per fathom. The 314, east of new east, is worth 10*l.* per fathom. The 302, east of new east, is holed to the winze under the 290. The ground here is very soft, and produces tin that can be worked at a moderate tribute. The 290, west of old sump, is worth 15*l.* per fathom. We are sinking a winze under the 278, just before this end, where the lode is worth for 9 ft. long 15*l.* per fathom. The 264, west of Harriett's, contains a little tin, and is likely to improve. The winze under the 248 fm. level, 6 fms. before this end, is sunk 7 fms., and worth for 9 ft. long 15*l.* per fathom. The 248, west of Harriett's, is producing a little tin, with a promising appearance. The winze under the 236, 8 fms. before this end, is sunk 8 fms., and worth for 9 ft. long 45*l.* per fathom. The 236, east of Stray Park, is worth 18*l.* per fathom.

The report and accounts were adopted, and a dividend of 7*s.* 6*d.* per share declared. On the recommendation of the committee, Capt. James Johns was appointed as one of the agents of the mine, in the room of the late Capt. Tonkin.

Capt. THOMAS, referring to the Barrow boring-machine which has been at work in the mine for some time past, said it would be remembered that at the last account they were about to put the pipes in one of the eastern ends, in order to fix the machine for the purpose of driving into the valley, and proving that part of the mine. They got the pipes into the end, and just as they were thinking about working they cut into a very soft piece of ground which had continued up to this time; it was, in fact, so soft that it did not require boring at all, and they had been obliged to timber the ground in order to keep it open. It was rather curious to find so soft a piece of ground at such a great depth below the surface, but it would help them onward considerably towards the valley. In the meantime he received a letter from the patentees of the Barrow rock drill, saying they feared the machine was not having a fair trial, they much preferred taking contracts themselves, and they asked for leave to have an end or two to drive, offering to take them at the same price that was now given for hand labour. (Hear, hear.) Of course this was an offer which could not well be refused; the mine had nothing to lose, and the patentees of the drill would have the satisfaction of knowing that the machine had fair play. Therefore, the committee of the mine requested him to make arrangements with the company, and this he had done through Mr. Loam, their engineer. He had that morning received a letter from Mr. Loam in which he said:—"I returned yesterday from Barrow, where I have had opportunities of seeing the patentees of the boring machine. They wish, and I think it will be best for them and the mine, to work the machine themselves by a contract to drive one or two ends to see what it can really do, at the price you pay for hand labour. I told them I would recommend you to accept their offer, subject to such arrangements as you may think necessary in the interests of the mine. The machine is fully maintaining its position in the Barrow district, and in one of their mines the manager has driven a cross-cut which he would not have undertaken by hand, from the distance to be driven and the time it would have taken, and it has opened out a new mine of great and permanent value. It is also being successfully extended into the Cumberland district. I confess I felt mortified to see what it is doing in those districts in the hands of Cornishmen, and to find that at home we cannot succeed, and that our men will not try. There the men upon trial so appreciate the machine that they will not—and object to—drive rock ground without it. It is this personal advantage to the men themselves that I want our men to see." He (Capt. Thomas) thought it would be to the advantage of the mine if they could drive faster than at present, and the Boring Machine Company would not be able any longer to say that their machine had not had fair play. With regard to the statement of accounts, he hoped the adventurers, under all the circumstances, would think that they were very favourable. At the last meeting it was generally thought that the price of tin had got so low that it was almost impossible it could go any lower; many people, indeed, were of opinion that would soon advance, but only a few days afterwards it began to decline, and the average price for the past quarter, as compared with the previous quarter, was just 4*l.* per ton less, making a difference in their credits of nearly 1200*l.*, or equal to a dividend of more than 5*s.* per share. The last time that tin was as low as at present was in the year 1849, when Dolcoath sold a few parcels of tin at as low a price as 38*l.* 10*s.* a ton. In 1866 tin was about 47*l.* a ton for three or four months, and at that time Dolcoath was only able to give a dividend of about 35*l.* in two months, and even that was given principally from a bunch of copper which they had in the mine, so that really at that price they were making no profits at all upon tin. But now that tin was 3*l.* a ton lower, materials much high, and the mine considerably deeper, they were able to make a profit of more than 155*l.*, and this must be considered as highly satisfactory. (Applause.) How far it was wise to continue to raise such a large quantity of tin as they were at the present time raising was perhaps somewhat difficult to determine. His own impression had been that it was far better for the legitimate interests of the adventurers generally that they should reduce their costs as low as possible, and raise just tin enough to pay their costs. He knew that was the opinion of several large shareholders, but dividends were now so scarce and calls were so numerous that, taking everything into consideration, it was thought better to go on as they were, in the hope that the tin standard before long would improve. There was another matter to which he ought to refer, inasmuch as it had found its way into the newspapers, the writers of which seemed to meddle in everybody's business—the stocking of tin. Of course, the adventurers had understood for several months past that they had been stocking tin at Dolcoath, and about six months ago the question was put to him by Mr. Rule as to how much tin they had in stock at that time. It was not thought desirable to let the smelters or the world know what the exact state of affairs was, and he believed he did say the papers were incorrect in stating that they had as much as 400 tons in stock—because they never had anything like that quantity—and he said so still. It was true that they had some tin in stock, and if the adventurers generally wished to know what the amount was he was quite prepared to tell them. About three years ago they stocked some tin, and in one quarter they made a profit of 1000*l.* by so doing; at the present time if they sold they would make a loss, but they hoped tin would advance again, and that they would be able to realise a good profit upon the sale. But even if a loss were eventually made the committee did not pretend to be infallible; they made mistakes sometimes like other people, but the misfortune was that if they did ninety nine things right and one thing wrong, they were far more blamed for the one thing wrong than praised for the ninety-nine things right. He hoped, however, that the policy which they had adopted would prove to be the correct one, and that no loss would result to the adventurers by reason of their having stocked their tin.

Capt. JAMES asked whether the Barrow drill, so far as it had been tried, had proved to be a success, and whether in the event of the offer of the company being accepted it was their intention to take over the air compressor and all the necessary machinery for compressing the air at a fair valuation, or would that machinery be given gratuitously? So far as the drills were concerned, he considered that up to this time they had been a failure, but perhaps with some little improvement they might finally succeed. There was, however, a great deal of prejudice existing abroad as well as in the county against them, and practical men in Cornwall were said to be prejudiced if they expressed an opinion with regard to those machines. He was quite sure that most mine agents would discard such a notion, but at the same time he could not see why they should acknowledge a success unless they actually witnessed it. If the rock-drill were a success let them by all means support it, but if it were not a success then he for one would give it no support even at the risk of being told that he was prejudiced against it. His own firm conviction was that there was no rock-drill which would ever compete in Dolcoath with manual labour; indeed, he did not think there was a rock-drill ever made that would compete with Cornish labour. A great deal had been said as to the speed at which the rock drill could work, and that the work could be done very much faster, but in his opinion this had yet to be proved. At the same time let the thing have a fair trial, and if the result was satisfactory no one would rejoice more than himself.

Capt. THOMAS explained that the first Barrow drill which they had on the mine was not strong enough for the hard ground which it had to penetrate, and it had to be constantly brought to surface for repairs, but in spite of these delays it was found that the machine worked quite as fast as hand labour. In accepting the offer of the Barrow Company it was proposed that they should supply their own materials, but that for a month or two they should be allowed to use the air-compressor and the pipes that were on the mines. These pipes were laid by Mr. Dœring, and did not cost the adventurers anything.

Mr. RULE thought that as Mr. Dœring had laid out 15,000*l.* or 16,000*l.* in the district the same chance should be given to him as to other inventors. He believed Mr. Dœring's rock drill was better adapted to Cornish mining than the one which they now in use at Dolcoath. He understood that Mr. Dœring owed about 200*l.* to the mine, but surely they would not charge him with that paltry sum after all the money he had expended.

Capt. THOMAS: He worked his machine at the mine for a year and a-half, and he then left because he could not make it succeed. We did not dismiss him. I have not understood that he has made any improvement in his drill since that time, but he has seen ours, and I believe he admits that it is far superior to his own.—Mr. RULE: Mr. Dœring is open to introduce his machine again if he can get any support, and I can guarantee that it is a great improvement upon the one which we now have.—Capt. THOMAS: He has never made any such offer to us. We gave him 17½ per cent. above the price of hand labour if he could drive twice as fast, and that is an offer which we have not made to the Barrow Company.—Mr RULE: Perhaps having spent all his money Mr. Dœring was not prepared to go any further. But if the adventurers can back him up I think they ought to do so.—Capt. THOMAS: He owed us 200*l.* or 300*l.*, and left the pipes on the mine in payment of that money.—Mr. RULE: But you do not mean to say you would make him pay that money after the thousands he has spent here?—Captain THOMAS: He has not spent it on this mine.—The proceeding then terminated.

The Dolcoath Mine has been in the possession of the present proprietors since 1799, and during the last 76 years over 5,000,000*l.* of ore has been obtained from it. It is not known when this celebrated mine was first opened, but it had been closed twelve years when the present company took possession. It has certainly been a paying concern to those who have had the courage to hold on. Twenty years ago a share could have been obtained for 15*l.*, and during those 20 years that share has received over 1800*l.* in dividends. In 1872 the mine made a net profit of over 50,000*l.* Dolcoath and several other of the principal mines in the district are under the management of Capt. Josiah Thomas, one of the ablest and most experienced men in the profession. The lord of Dolcoath, that is the owner of the soil, is Mr. Basset. The lord receives 1-18th or 1 20th of all the ore raised. Many of the Cornish landowners have thus realised large fortunes from their highly favoured property. It is much to the honour of some of these gentlemen that during these times of depression they have foregone half their rights. At the same time, it is to their interest to make these concessions, for if the mines fail to pay expenses they must be closed.

EAST POOL MINING COMPANY.

The two-monthly meeting of adventurers was held at the mine on Monday. Mr. R. R. BROAD (the Chairman) congratulated the adventurers on the mine being able to pay the same dividend as was paid at the last account. There had been some difficulty in bringing matters to so favourable an issue, and they would no doubt agree with the committee that the agents deserved their best thanks and heartiest congratulations for the exertions and ability that had brought about such a satisfactory result. As to the natural product of their mine, they had reached the height of their ambition, and their difficulty now was to turn what they had got into money. As, therefore, the tin and copper market had not advanced materially since the last account, it was very gratifying that they were still able to pay a dividend of 2*s.* 6*d.* If they could obtain the prices that ruled two or three years ago that dividend would be 7*s.* 6*d.* or even 10*s.*, and he hoped the time was not far distant when their profits would be much increased. Events ran in cycles, and by-and-bye time would bring them round to prosperity again. Although the price of tin was still very low it was satisfactory to know that the stocks were reduced, so that when the price was better there would be no large stocks to place on the market to lower it. They had heard lately of a reason for the continued demand for tin from a cause that was very easily understood. The price of tin is now 17*l.* a ton less than copper, whereas in former days it was 17*l.* a ton more than copper. Now, therefore, it was quite worth while for the brass-founders to use more tin in their admixture, and it was well known that the larger the quantity of tin the greater was the induration of the brass. The stocks of tin being, therefore, continually reduced by this means, nothing would then interfere with their enjoyment of better prices when they came. With regard to the mine itself, the more they took out of it the richer it seemed to get.

The accounts showed that the labour costs for the two months were 3113*l.*, merchants' bills, 1399*l.*; Wheal Agar was paid 50*l.* for excess of fuel in pumping, the Illogan highway rate was 59*l.*, the Stannary assessment 9*l.*, and Mr. G. L. Basset was paid for dues—1-15th for copper, arsenic, and wolfram, and 1-18th for tin—331*l.* The total expenditure for the two months was 4963*l.* On the credit side 917*l.* had been received for copper, 2626*l.* for tin, 1446*l.* for tinstone, 8*s.* for wolfram, and 660*l.* for arsenic. The total receipts were 5675*l.*, leaving a balance of profit on the eight weeks' working of 711*l.* 16*s.* 3*d.*, which, added to the 149*l.* balance at last account, made a credit balance of 861*l.* Out of this sum it was proposed to pay a 2*s.* 6*d.* dividend, which would absorb 800*l.*, leaving 61*l.* 9*s.* 5*d.* to be carried forward. In the minutes of the committee it was stated that in accordance with a clause inserted in the new lease by Mr. Basset, the men had been allowed to select their own doctor. The following report of the agent was then read:—

May 8.—Great Lode: At the 180 during the last month we have been rising in the back of the level close to the present end, now up about 9 ft.; the lode is about 3 fms. wide, mixed with decomposed granite, worth 20*l.* per fathom. The 180 is driven west of cross course 13 fms., and is worth for tin 15*l.* per fathom; we have five stopes working in the back of this level, two west and three east of cross-course, worth on an average 14*l.* per fathom each stope. The cross-cut at this level is driven 20 fms. south to intersect the engine and south lodes. The sump winze sinking below the 180 is down 5½ fms.; the shaftmen are removing attle, and putting in timber, so as to make a shaft through the gunnies, so as to work a lift in this winze and skip if required; value for tin 18*l.* per fathom. In the 170 we have two stopes working in the back of the level worth for tin 10*l.* per fathom each stope. In the 160 we have a stope in the back of this level, on the eastern ground, worth for tin 14*l.* per fathom.—Engine Lode: At the 170 we have driven west on a caunter lode 5 fms.; worth for tin 6*l.* per fathom. At the 160 we have two stopes working in the back of this level; worth for tin 15*l.* per fathom each stope. The 155, driving east, is worth 8*l.* per fathom.—South Lode: The 160 is driven east of long winze 27 fathoms, and is worth for tin 17*l.* per fathom. The 150, east of eastern cross course is worth for tin and copper 8*l.* per fathom. The 140 is driven east of long winze 20 fathoms, and is worth for tin and copper 14*l.* per fm. The winze sinking in this level is down about 8 fathoms, but being between two branches or lodes it is valueless. There are eight stopes working in the back and bottom of the 130, worth on an average 12*l.* per fathom each stope. The 120 is driven east 20 fathoms, and is worth 9*l.* per fathom for tin and copper.—JOHN MAYNARD, Manager.

Dr. MICHELL mentioned that it had been suggested to the committee that it would be advisable to have three-monthly instead of two-monthly meetings in conformity with the practice of tin mines in general. He mentioned it that adventurers might think over the matter, which would be brought up for decision at the next meeting.—The CHAIRMAN said the alteration would in no way diminish the dividend.—The PURSER (Mr. Martyn) said three-monthly meetings would involve a less number of stock-takings, and, consequently, less hindrances in the working of the mine.

The accounts were passed and the dividend declared, and before the meeting separated Capt. MAYNARD said he believed the mine was as good as ever it was. What they wanted was a better price, and he was in hopes this would be realised ere long. Their costs were pretty high, but for the last four months they had had 16 men working at timber, with others helping.—*Western Daily Mercury.*

ECLIPSE GOLD MINING AND QUARTZ CRUSHING COMPANY.

The general meeting of shareholders will be held at the London Tavern, on Thursday, when the following report will be read:—

In presenting their annual report, the directors have to announce that since they last had the pleasure of meeting the shareholders great progress has been made in the various works at the mines.

It will no doubt be remembered that at the second ordinary general meeting of the company, held on April 2, the directors proposed to raise the sum of 5000*l.* by the issue of 200 mortgage debenture bonds, of 25*l.* each, for the purpose of putting in efficient working order the tramway, ditch, and mill, for which Capt. Eudey had furnished an estimate. The whole of this amount has been subscribed for, principally by the directors and their friends, and by this means Capt. Eudey has been enabled to carry out the works proposed by him. These operations were completed towards the latter end of November last, and with what result will be seen from the report furnished by Capt. Eudey.

Capt. Eudey, in his anxiety to obtain as large a yield of gold as possible, unfortunately, by working the whole of the 20 stamps with only four pans and two settlers, attempted too much: the consequence was that the pulp passed too quickly through the gold-saving portions of the mill to allow, first, of proper amalgamation in the pans; and, secondly, sufficient precipitation in the settlers, an evil believed to be further aggravated by the absence of an apparatus for conveying heat to pans.

Since the directors have been made aware of the absolute necessity of using additional settlers, and also the heating apparatus to assist in the amalgamation of the gold, instructions have been given to Capt. Eudey to provide same, and for which he has been supplied with funds upon the personal responsibility of the directors. From recent advices the directors learn that these appliances are progressing towards completion, and it is estimated will be ready for active operation by the end of June. The directors feel hopeful that by working with 10 or 12 stamps, and the additional improvements named herein, a profit such as will give confidence to all interested will be obtained, and that by a further outlay of a comparatively small sum that profit will be more than proportionately increased.

The directors beg to notify that Mr. Willett, who has within the last few months visited and returned from the mines, where he resided for some time, will be present at the meeting, and will have pleasure in giving the shareholders, having been an eye witness to facts, his views on the future prospects of the mines.

In consequence of the retirement of Mr. Casswell, the late Chairman of the company, from the board of direction, the vacancy has been filled up by the election of Mr. S. J. Wilde, Chairman of the Nerbudda Coal and Iron Company (Limited).

FRONTINO AND BOLIVIA GOLD MINING COMPANY.

Another instance of the success attending well-directed efforts in mining adventures is now being realised in the case of the properties belonging to the Frontino and Bolivia Company. After many years of not very varying fortune, but of almost continual losses, this company will enter the Foreign Dividend List in the course of the present month, and too much praise cannot be bestowed upon the directors, whose zeal and perseverance have brought about such a happy result. It is not many years since the affairs of this company were at so low an ebb that it was well nigh being wound-up, but the shareholders, fortunately, had a gentleman at the head of the direction whose well-founded faith in the great value of the properties they possessed has never wavered, and with great determination on his part some 10,000*l.* was raised upon debentures, though upon very onerous terms. This enabled the company to keep on its legs, and continue the working of the mines, and it is most gratifying to see such faith and determination rewarded by success. Not only have those debentures been paid off in full, with interest, but the past year has resulted in a net profit of upwards of 10,000*l.* Although this amount is not a bad sum for a property that had previously for so long been struggling to pay its way, and is sufficient to pay a handsome dividend to the proprietors, there is little doubt that it is only an earnest of the future profits which will be reaped by this company.

One or two extracts from the manager's (Mr. R. B. White) report, dated Feb. 12, will give some idea of the richness of the mines, and the great results yet to be sought for in the property. He says—"The greatest merit that these mines have in my eyes is their sure character; we have them thoroughly examined at the cost of other people; we take them into our hands if we choose, and if not we leave them on lease or abandon them. Anyway the company cannot lose money on them; and the best thing of all is that there are plenty more mines to take the place of those at present in work. With care and judgment in selecting, and prudence and patience in extending and organising our establishments, the company will become immensely rich and powerful. The great thing is not to overdo anything, to keep our schemes within the limits which the resources and circumstances of the country point out, and take our every step on firm ground. You may be sure we are not going to stand still. The point called 'height of prosperity' is yet a very long way off, but we are going there." Further on he states—"Now, I believe we can continue this system, and extend it to such a point as to enable the company to pay dividends of 20 and 30 per cent. on its whole capital. I will not say more, for I do not wish you to think I am overstraining our good prospects."

So far the company have not been able to work the richest part of their property, but suitable machinery has now been erected at the El Silencio Mine, from which alone Mr. White is fully convinced a further net profit of at least 1000*l.* a month will be obtained. In addition to this El Silencio and the other mines now being worked by the company, the property comprises some dozen further mines, which are let to tributers, who are also making considerable profits out of their working. These tributers' mines, as the leases fall in, will be worked by the company if considered desirable—one lease, that of the Palmichala, falls in this month, and the profits which the tributers have been making from it, about 500*l.* per month, will be obtained by the company.

Great credit is due to Mr. White, the manager, for the practical and energetic manner in which he has worked the properties; and after the proof he has given of the soundness of his views in the beneficial changes resulting from his management, too much reliance can scarcely be placed upon his reports, especially when confirmed by large monthly remittances of the precious metal. There are many other points of importance which might be mentioned, but probably we have said enough to draw attention to the property; anyone wishing to know more will no doubt find it very easy to obtain every information. We congratulate those who have held their shares, and their patience will, no doubt, be now amply rewarded.

NEW ZEALAND MANGANESE.

For many years the manganese market was commanded almost entirely by one firm, whilst the comparatively limited demand and the circumstance of all the principal deposits in Europe being under their control, and kept idle, no difficulty was experienced in keeping up prices so long as the monopoly was untouched, and swamping the market, and so sending down prices to a mere nominal figure whenever a competitor appeared. Since then, however, additional uses have been found for the ore, and new producers, thus finding other outlets for it besides those formerly existing, the market became more open, and the working of other properties has become practicable. During the past year one of the new caterers for business has been the company registered some 12 months since under the title of the NEW ZEALAND MANGANESE MINES, and from the result of their first year's operations they may be well congratulated upon their success and prospects. The company was registered at the end of December, 1874, with a capital of 35,000*l.*, in shares of 1*l.* each, whilst, as will be seen from the report of the general meeting in last week's Journal, the directors paid one 10 per cent. dividend in March, 1875; another of equal amount at the meeting in question, whilst the balance of the cargoes now coming forward will suffice for the payment of another 10 per cent., making, as the Chairman explained, 30 per cent. for the year. Upwards of 500 tons have been sold during the year, realising the handsome sum of 4267*l.* 12*s.* 2*d.*, and the company have now forthcoming upwards of 3000 tons more, the estimated value of which is 18,720*l.*, the estimated profit for the year being no less than 12,745*l.* 10*s.* 1*d.*, which leaves 3743*l.* 17*s.* 6*d.* at the disposal of the board after paying the 20 per cent. dividend and the debenture interest to the end of the past year.

The encouraging prospects of the enterprise cannot be better ascertained than from the observations of the managing director—Mr. Scott—that all the information from the colony was very satisfactory. The shipments which has reached this country amounted to 916 tons, and those arriving to 535 tons, so that they had realised an aggregate of 1451 tons. If the tramway had been in full working order they would have had 500 tons more. The distance being so great, delay had been unavoidable, the labour involved had also been considerable, they had had to construct buildings for the workmen, a floating pier, and they had now a wire tramway which would be a credit to New Zealand. Hitherto the chief source of manganese had been Spain, but the Spanish was of much inferior quality, assaying 62 per cent. to 65 per cent. of peroxide, whilst that of New Zealand reached 80 per cent peroxide of manganese. The price was quoted for 70 per cent. peroxide, and was at present about 6*l.*, for each 1 per cent. above or below 70 per cent. an addition or deduction of 2*s.* 6*d.* was made, so that suppose they sold a cargo, which Messrs. Teschmacher and Smith showed to contain 78 per cent., they

further to be said that is stated in the report. The new capital was taken up in January last; and as the latest advices only bring dates from Sydney to March 18, there had not been much time for carrying out mining operations. Mr. Morehead had, however, appointed Capt. Josiah Holman to take charge of Cadia, and to visit and report upon the Queensland property, which he was engaged in doing. He had already made arrangements for putting up water machinery for economically testing the gold quartz at Cadia, and for the erection of a smelting furnace for reducing the copper ores at the Queensland property to regulus. Mr. Shannon, the sub-manager, has also been sent to the latter property to inspect and report upon the general progress of matters there. The board hope to receive further intelligence before long. Mr. Morehead is dealing with these properties in an economical manner, and does not anticipate that they will require any great outlay in order to bring them into a productive condition. There is a considerable quantity of ore ready for treatment as soon as the furnace shall be finished. The building ground at Newcastle has been brought into a condition for making it available for building purposes, and it is expected that the demand now existing for this class of property in and near Newcastle will lead to the making of favourable sales.

Several shareholders having made enquiries, which were answered by the Chairman, the following resolution was carried unanimously:—"That the report of the directors be received and adopted, and that a dividend at the rate of 15 per cent per annum on the paid-up capital of the company (140,000*l.*) be declared, the same to be payable, free of income-tax, on and after Saturday, May 20."

Resolutions re-electing A. W. Young, Esq., and Sir Charles Wetham, the retiring directors, and Mr. James Roberts, the retiring auditor, and for increasing the remuneration of the directors, were then passed, and the meeting separated after passing a cordial vote of thanks to the Chairman, directors, and manager.

VANCOUVER COAL MINING AND LAND COMPANY.

The annual general meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Tuesday,

Mr. JOSEPH FRY in the chair.

Mr. SAMUEL M. ROBINS (the secretary) read the notice convening the meeting.

The report of the directors stated that for the six month ending Dec. 31, 1875, the profits amounted to 4034*l.* 3s. 8d. The quantity of coal shipped and sold amounted to 21,378 tons, and the output to 27,126 tons.—Douglas Mine: Both the No. 4 and No. 5 levels were driven during the six months with but few interruptions (chiefly caused by imperfect ventilation), the former in coal of more than average thickness—3 ft., and the latter in coal varying from over 5 ft. down to 2 ft. 9 in. An exploratory drift was commenced to the dip of No. 5 level for the purpose of opening a No. 6 level, and excellent progress was made in coal, clean and hard, exceeding 5 ft. in thickness.—Park Head Adit Level: This level was not completed as anticipated, a piece of rock having been met with which seriously delayed the work; very little, however, now remains to be accomplished.—Lower Seam Exploration: The result of the sinking of bore-holes in the several drifts to the third seam was not sufficiently favourable to induce the managers to continue explorations in this mine. At a future time, however, should it be found that a workable seam of coal underlies the lowest point yet reached much time and labour will be saved by utilising the work already done.—New Douglas Mine: The shareholders have already been made acquainted with the rapid progress in opening up this new mine. During the six months the levels, slope, and airways were pushed forward with scarcely a hindrance. The coal, of which nearly 3000 tons were produced previous to Dec. 31, has since been tested at Victoria and San Francisco, as well as by steamers coaling at Nanaimo, and in every instance a favourable report as to its quality has been received. Until the new engine is erected the produce from this mine cannot be large. In the meantime the slope and levels will be driven night and day, and the necessary rolling stock and other appliances will be shipped by the first opportunity.

Mining on Newcastle Island—Fitzwilliam Mine: The greatest part of the half-year was occupied in grading the diagonal slope road, and it was only in November last that its sinking was resumed: 100 yards have since been driven in coal of good quality, but a roll in the roof has for the last few yards cut out the top of the seam, leaving only 3 ft. of sound coal.—Newcastle Mine: From this mine 349 tons of coal were raised during the half-year, but owing to the heavy cost of mining, and the difficulty of keeping the water under, the work has been discontinued.

Diamond Boring Machine Coal was struck by the machine at a depth of 497 ft. on Jan. 15. The thickness of the seam was reported to be 9 ft., and the coal core extracted was of fair quality. It is thus proved that coal exists beyond and to the east of the Great Pitch, but it has still to be determined whether to win it from the old Douglas workings or by means of a new shaft. Whichever plan may ultimately be adopted, nothing will be decided upon until the exploration of the New Douglas Mine is further advanced, when a far better knowledge of the structure and extent of the whole Nanaimo coal basin will be gained. Before dispatching the Diamond borer some uncertainty was felt as to its being adapted for piercing the hard conglomerate found in many parts of the company's estate, but the recent trial shows that it penetrates the hard sandstones and the conglomerate with equal ease. The next bore-hole will be put down on Newcastle Island to test the ground in advance of the diagonal slope road.

Land Sales: Town lots to the value of 1676*l.* were sold during the six months. The amount collected from these and previous sales was 1832*l.*, which, subject to the usual deduction, has been included in the profits of the half-year. There still remains a sum of 2100*l.* due on land sales account. A valuation of the town site has been made by the managers, which shows that the amount previously written off was sufficient. Nothing, however, has at any time been written off the other portion of the estate, and it has been decided to set aside for the future 6 cents. per ton on the output of coal to form a sinking fund to meet the depreciation of the estate. The whole of the 6 per cent. debentures for which subscriptions were asked by the directors were applied for, and have been allotted to shareholders or their nominees. The directors recommend that a dividend be declared for the half-year at the rate of 10*l.* per cent. per annum, and they propose to take 95*l.* 16s. 4d. from the reserve fund to make up the necessary amount.

The CHAIRMAN apologised for the unavoidable absence of the Hon. Mr. Fitzwilliam, M.P., the Chairman of the company, owing to parliamentary duties. As to the report now before the meeting, it contained the whole of the details of the past half-year's operations. The result had not been so successful as anticipated, owing to the state of affairs at San Francisco. Everyone knew, and especially those connected with business, that commercial affairs all over the world had been in a very depressed condition. San Francisco in the early part of the autumn was in a state of absolute panic, with everything nearly at a dead lock, and it was a perfect marvel that this company had done so well. But the trade was again improving, and freight was at a very low price, so a profitable and increasingly large trade was being done. The state of the mines was satisfactory—the old mine was as well as usual, and the new mine was a success. During the three months of this year 15,715 tons had been raised, as against 10,500 tons for the corresponding quarter of the previous year—an increase of 50 per cent. He need scarcely say they were doing an increasing and a profitable trade. Under those circumstances the board thought they were fully justified in trenching to a small extent upon the reserve fund, so as to keep up the regular dividend. The New Douglas Mine was a success from the time they commenced to make and drive the slopes; 3600 tons of coal had been raised during the last three months, 1600 tons of it during the last month. The coal was first-class in quality, and a letter received that morning spoke of it as follows:—"I am much pleased to say this coal takes well, and I hope to be able to sell all that comes down." It is a very valuable coal for gas, steam, and house use; that mine was a singularly successful hit. Their colleague, Mr. Wild, had been to the mines since the last meeting, and his report had been forwarded to each shareholder. He was sure the shareholders would agree with the board that it was a very desirable thing to send Mr. Wild, knowing the extremely valuable visit he made for the company eight or nine years ago. The Diamond borer had proved successful, as shown by the fact that under the old system 240 feet had been bored in 12 months, at a cost of 560*l.*, whereas 492 ft. had been bored by the Diamond borer in three months at a cost of 320*l.* He then moved that the report and accounts be received and adopted.

Mr. WILD (a director) seconded the proposition. He congratulated the shareholders upon the continued prosperity of the company, which had for many years given dividends of 10 per cent. per annum. Just after his first visit to Vancouver, in 1868, he remembered expressing an opinion that there should be no difficulty in making the property pay 10 per cent. Since then he had felt some qualms of conscience, because of extraordinary disadvantages which could not have been foreseen There had not been a more difficult coal field to work in the whole world, and it was difficult to ascribe to any one cause why it was the output had not been considerably increased. It was well known that if the output were increased 50 per cent. the concern would gradually become a much better paying one. He had always been inclined to attribute the misfortune at the Old Douglas pit to a very curious formation; the coal took a sudden declivity from a grade of 1 in 5 to an almost vertical pitch. This had been a great drawback and the misfortune had much impeded their progress, at the same time that it increased the expenses. The diamond borer was first used east of the pitch that is on the sea side of the declivity alluded to. That after such a great distortion the coal was there at all, and a better coal too, was very satisfactory, but what they now wanted to do was to ascertain the area of coal below this pitch, and with that view it was proposed to use the diamond borer in other directions. It may be that they might find below this pitch the greatest area of coal the estate possessed. The new mine was a continuation of the old one just described, and at the next meeting they would probably have to speak of a continuous level running north in the new and south in the old mine. The coal in the new mine was more regular, which was evidence that the further they got from the pitch the better would become the seam. He had come to the conclusion from a personal inspection of the seam that the average of the seam worked during the last ten years had not been more than 2 ft. 9 in., and by reason of the vertical nature of the seam the coal sent to market had often been in a very broken condition, and sometimes was unmarketable. They spoke in the report of the Fitzwilliam, but they almost had a right to claim it as a new mine; the coal of the original mine was almost nipped out, but fortunately it continued at one part, and it was a matter of great astonishment that it had opened out so well again. The Old Douglas, New Douglas, and the Fitzwilliam were mines upon the upper seam. The lower seam was called Newcastle. The town was very prosperous. He had the highest respect and confidence in their officers, and had always tried to impart that feeling to his brother directors.

In reply to a question from Mr. TENDRON, Mr. WILD said that Mr. Bryde had as much as guaranteed an output this year of 60,000 tons.

Mr. TENDRON was pleased to have heard such an encouraging statement from Mr. Wild as to the future, as it supported his (Mr. Tendron's) opinion among those who had held their shares.

The report and accounts were received and adopted.

Upon the proposition of the CHAIRMAN, seconded by Mr. HILL, a dividend at the rate of 10 per cent. per annum was declared.

Mr. TENDRON proposed the re-election of the retiring directors.—Mr. HILL seconded the proposition, which was put and carried.

A vote of thanks to the Chairman and directors closed the proceedings.

WHEAL CREBOR COMPANY.

The general meeting of shareholders was held at the offices, St. Michael's House, yesterday,—Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. C. B. PARRY read the notice convening the meeting, and the minutes of the preceding one having been read and confirmed, the agent's report and statement of accounts, showing a balance of assets over liabilities of 373*l.* 7s. 1d., were submitted.

May 11.—I beg to hand you my report of the above mine for the meeting to be held to morrow (Friday). At the 120 we have for some considerable time been driving east on a wall somewhat similar to that we drove on at the 108 east before it reached a large lode, but as the lode is still small I have put the men to drive south to prove whether the main part of the lode is in that direction. The lode in the 108 east is 3 ft. wide, composed of quartz, capel, mundic, and a little yellow copper ore. The lode in the 72 east is 4 ft. wide, of a very promising character, and letting out a large stream of water, but as yet is unproductive. The lode in the 48 east is 6 ft. wide, 2 ft. of the north part of which is worth 10*l.* per fathom, and looking promising for further improvement, as the orey part appears to be opening out wider as it goes east. The lode in No. 1 stope, in the back of the 48, is 8 ft. wide, and worth 15*l.* per fathom. The lode in No. 2 stope, in the back of the same level, is 6 ft. wide, and worth from 35*l.* to 40*l.* per fathom—a fine course of ore. We have now on the floors dressed, towards the next sampling about 110 tons of good quality ore, and hope to get from 240 to 250 tons by the end of three months, besides 70 to 80 tons of mundic, which will leave a good profit on the quarter. I am very pleased to say, on the whole, the mine is looking very well. —JOHN ANDREWS.

The CHAIRMAN explained that it was the custom in that company to charge up all they paid before the meeting, so that in the accounts now presented they had four months' costs against three months' returns, which showed an apparent loss of 173*l.* 8s. 5d. He considered this was the proper way of preparing accounts; but he thought it should be explained that they had 110 tons of ore on the floors produced by the costs already paid. The estimated value of this ore was 400*l.*, so that it would be understood there had been no real loss, but actually a fair profit. They would next quarter show a profit of from 400*l.* to 500*l.* He should also mention that the 73*l.* for copper ore sold was not yet in hand, nor had they the bills, but they would be received in a day or two.

The report and accounts were then unanimously received and adopted.

A SHAREHOLDER enquired the present position of the new lease.

The CHAIRMAN said they had had the lease there, and he and Mr. Emanuel had gone through it clause by clause with Mr. Childs, their solicitor. The result was that they had made several objections, or perhaps he should say stipulations, and he was glad to say that these had been fairly met by the Duke's agent. One of these he might mention was that they should spend 20,000*l.* out of the profits in opening up the side lodes, but this had now been altered so that it would only apply after 25,000*l.* had been distributed as dividends to the shareholders.

Several shareholders expressed themselves thoroughly satisfied with the position and prospects of the undertaking, and a cordial vote of thanks having been given to the Chairman, the meeting separated.

CENTRAL VAN LEAD MINING COMPANY.

The third ordinary meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Wednesday,

Mr. F. E. BINGLEY in the chair.

The SECRETARY read the notice convening the meeting.

The report of the directors regretted that owing to the limited amount of capital at their disposal they have not been able to proceed with the development of the mine so rapidly as they could have wished. The sinking of the engine-shaft, now about 72 fms. from surface, has been suspended for awhile, but the deep adit has now been driven 137 fms. from the south base of the hill, and has passed through an east and west lode several fathoms wide, which although not productive for lead at the present depth of 20 fms. will, it may be expected, prove so when greater depth shall have been attained. Although the directors do not pronounce this to be the Van lode, they know of no reason why as a parallel lode, and in the same stratification, it should not (as in the case of the three rich parallel lodes at the great Dylliffe Mines) prove equally as productive as the one at the Van. For some time the chief operations at the mine have been limited to driving on a very promising caunter lode, which, according to the manager's report, will shortly form a junction with the east and west lode above referred to. And they are led to hope from the statement of the manager and other competent authorities, that when that point has been reached an important discovery will be the result. The directors have noticed with satisfaction the recent important discoveries at the East Van and the Glynn Mines, which have very considerably enhanced the market value of those properties. When it is borne in mind that the East Van Company, although possessed of ample capital, had been at work for several years longer than the Central Van before they made any discovery, and that operations at the Van had been going on for about eight years before its riches became apparent; it is hoped that the shareholders will take courage and support the directors in their efforts to obtain the additional capital which is absolutely necessary to proceed with the works to a successful issue. It will be seen from the balance-sheet that there are about 800 shares still unallotted, but as the shareholders may not be willing at present to subscribe for these, the directors determined to issue debentures in bonds of 50*l.* each for three years, bearing 12 per cent. interest, thus offering an undeniable security, together with the option of converting them at any time within that period into ordinary shares, which in case of a discovery would speedily attain to a considerable premium. Upwards of 1200*l.* has already been subscribed on these terms, and it will be gratifying to the directors, and no doubt to the shareholders also, if at the forthcoming meeting it can be announced that the whole amount required has been obtained.

The special report of Capt. A. Francis, Old Hall, Halkyn, Holywell, advised the shareholders to hold their property, and for the present comply with the conditions of the lease by the smallest possible outlay—that is, until circumstances warrant vigorous action. He believes that at no distant day the Central Van will be valuable.

The CHAIRMAN said:—Before moving the adoption of the report and balance-sheet, which, as they have been circulated amongst the shareholders you will probably take as read, I will briefly refer to a few points that may seem to require explanation. The engine-shaft having been sunk to a depth of 72 fms., it was deemed advisable to cross-cut north, with the view of reaching the Van lode. When about 50 ft. had been driven what was believed to be the south wall of that lode was met with, and the cross-cut was continued for several feet, but not far enough to reach the north wall, which is the productive part of the Van lode. We found that we were approaching our northern boundary at that point, and, calculating the distance of the end of the cross cut from the shaft, it was found that we should have to sink a good many fathoms deeper before we should find the lode in the shaft. Our funds being then limited, we decided to suspend for awhile all operations at the shaft, and to proceed with the Llewynlys deep cross cut. To show you that we were justified in adopting this course I will read you an extract or two from the reports which appeared in the original prospectus. Captain Frank Evans says—"The Van lode dips into the Central Van, and it is believed there are other lodes also, which, if properly searched for, would give additional value to it." Captain James Roach, the able manager of the Van Consols and the Glyn Mines, states—"The other parts of Llewynlys, together with the common lands you have lately obtained, form a considerable area, and I believe a parallel lode or lodes will be found therein. The chances are that discoveries of ore of great importance would be met with. The Van lode at certain points would also be reached from this direction." Mr. Henry Dennis, of the Minera Mines, after stating that the engine-shaft would pass through the Van Mine vein at 80 to 100 fms. deep, says—"There are other important lead ore veins running through the property, south of and parallel with the Van lode. The outcrop of the Van lode traverses the northern boundary of your property for nearly ¼ mile, and, as the underlie is to the south, it will in depth pass through your property for the whole of this distance." Now, gentlemen, the deep adit has been driven 137 fms. from the south base of the hill, and two caunter lodes and one large east and west lode have been met with, and our present operations are being carried on on the No. 2 caunter lode in the expectation of making a discovery at the junction of that lode with the east and west lode, and, according to the reports of experts whose opinions are entitled to respect, such a result may fairly be expected. I am perfectly aware that the time appears long before we arrive at that success which we hope for, but we must bear in mind that our two wealthy neighbours had much longer to wait. At the East Van I think some seven or eight years expired before any discovery was made, and at the great Van itself an equally protracted period elapsed before that mine could be pronounced really to be an undoubted success, and it has often been said the Van was so nearly being abandoned that if the present intelligent manager, Capt. Williams, had not successfully urged the owner of it to provide one month's more cost, or allow him to do so, it is highly probable that the thousands of tons of lead that have been raised from that mine would not have been discovered to this day. Let me urge you, gentlemen, to persevere in a like manner, and I believe you will ultimately be rewarded for doing so. Unfortunately for mining enterprises like this we have been passing through a long period of almost unprecedented depression. The great collapse of foreign mines, and more especially the gigantic failure of the Emma, have contributed largely to the distrust and prejudice which so materially affect the development of our home mines. But with a plethora of money seeking employment at 1 or 2 per cent. this cannot last long. It would, indeed, be marvellous if the rich mineral deposits of England and Wales were allowed to remain dormant when, instead of 1 or 2 per cent., 10 or 20, and even 50 in some cases, may be gained as a return to the investor, besides the great advantage in a national point of view that would result from such investments. If men of intelligence and capital would divest their minds of this unreasonable prejudice, and bring to bear upon the development of our British mines some of that capital which they have been too ready to embark in foreign enterprises the result would be astounding. For depend upon it in yonder hills and mountains of Cambria, beneath the slopes and valleys of Yorkshire, and in the not yet exhausted mineral districts of Cornwall, there are sources of untold wealth, which require only capital and enterprise, combined with ordinary skill and prudence, to develope to such an extent as would help materially to raise this country from its present unnatural state of gloom and despondency to its far more normal state of affluence and prosperity. I am ready to admit, gentlemen, that there are some things to be said in justification of the prejudice to which I have alluded, but they will, I trust, soon be remedied—such, for instance, as a strong disinclination to adopt new appliances for expediting the working of mines, and more efficient and economical machinery for dressing the ore. But I honestly believe that one of the main causes of failure in mining operations is the want of sufficient capital. For I speak from painful personal experience when I say that it is a great mistake to commence working a mine without sufficient capital; but once secure this, and exercise ordinary commercial sagacity in the selection of your properties and the appointment of officers and workmen, and I venture to assert that there can be found no more legitimate or profitable channel of investment than British mines, and especially British lead mines. One word more, gentlemen, as to the future of the Central Van. This will probably be the last time I shall address you as Chairman of this company, I would, therefore, urge you and the shareholders generally to stick to this property; subscribe for the small amount of debentures required, and I firmly believe that at no distant period you will have substantial reason to be satisfied that you have done so I may add that, independently of the riches you may yet discover in this property, its relative position to the two important mines adjoining will always secure for it a considerable value, which, sooner or later, is sure to be recognised. I now beg to move the adoption of the directors' report and balance-sheet.

The motion was seconded by Mr. WHEELER, of Liverpool.

Mr. ARTHUR drew attention to the amount of directors' fees.

The CHAIRMAN explained that with the exception of the amount of 800*l.* which was due in December, 1873, the directors had relinquished all claim to fees, both those which had since accrued, or were nominally accruing, and that in fact the directors would do their work gratis till such time as the mine was a success, when they would trust to the generosity of the shareholders to recompense them for their time and trouble. Meanwhile the 800*l.* would be carried to a suspense account till the success of the mine.

Dr. GIBBON said that after this statement of the intentions of the directors he hoped the shareholders would also put their shoulders to the wheel and support the directors in the efforts they were now making. Central Van was between Van and East Van; the permanent improvement in the former, and the discoveries at the latter, had enhanced the value of the Central Van. Now, what it had been decided to do was to raise 4000*l.* in debentures of 50*l.* and 25*l.* each, with the option of converting the same into shares at any time within three years. The directors and their friends had raised upwards of 1200*l.*, and he now invited the shareholders to subscribe for these debentures, and not to relax their efforts till the mine had been thoroughly done justice to. By coming forward now they would assist the directors, and he did not think they would have any cause to regret it.

The motion for the adoption of the report and balance-sheet was then put and carried unanimously. Major Suart and Mr. J. W. Fitzgerald, the directors retiring by rotation, were, on the motion of Mr. J. C. M. NAUGHTON, seconded by a shareholder, re-elected. The election to the board of Dr. S. Gibbon, of London, and Mr. G. Hargreaves, of Liverpool, was also confirmed, and Messrs. T. S. Evans and Co., the retiring auditors, were unanimously re-elected.

THE MONTPELLIER SILVER-LEAD MINING COMPANY (ISLE OF MAN).

The first statutory meeting of shareholders was held on Tuesday, May 2, in the company's offices, Deansgate, Manchester,

Mr. JAS. CAULFIELD (the chairman of the company) presiding.

Mr. J. E. GALLIFORD (the secretary) having read the notice convening the meeting,

The CHAIRMAN said: The object of our meeting this day is to place our company upon a legal footing in accordance with the Act of Parliament, also to elect a board of directors, as stated in the prospectus. We are not met here to transact any financial business. Your secretary will now read the last report from Mr. John Woolcock, of Kirk Michael, our manager at the mine.

The SECRETARY then read the report, as follows:—

April 29.—Operations at the mine have been the clearing out the adit level and retimbering the same, which is now 15 fms. I am pleased to inform you that we have met with good stones of silver-lead ore, and some nice spar, which seldom fails in producing ore when it is mixed with silver ore and copper. I expect by the end of next week we shall reach the forebreast, when we shall be ready for driving. The timber was all decayed so far; but in a few days we shall have a good level all the distance - 22 fms. I may tell you that we have a beautiful crystallised spar in the adit level, as much like the Great Laxey spar as any I ever saw, also nice stacks of silver lead ore. On Wednesday last we succeeded in getting all the water out of the shaft, which is about 10 fms. deep, and are now driving out under the river. We have also nice samples of ore from this point. This day I have just come from underground, and had a kibble of stuff sent to surface, which is disseminated throughout with lead and blende. I expect to begin to break ore at the bottom of the shaft this week. The mine is now so far opened that I would advise an independent inspection.—JOHN WOOLCOCK, Manager.

The CHAIRMAN continued: I think the report from our manager clearly shows that we have a very valuable property, and a mine of no ordinary merit; considering the short time we have been at work the results are most encouraging. We have no less than 500 acres of mineral ground for the small sum of 2000*l.*, one-half in cash and one-half in fully paid-up shares. The company has been formed, not as many have for the sake of promotion money, but to work and develope the mine. It will, therefore, be the duty of those whom you may place in office to carry out the work with spirit, but with a careful regard to economy. Not a penny has been paid for promotion money, nor have any shares been allotted that have not been paid for. I have always had great faith in this property, and feel still more confidence after reading this week, in the *Mining Journal*, a paragraph on the Great Laxey Mine, which, you are aware, is at no great distance from the Montpellier. It is as follows:—

SUCCESSFUL LEAD MINES.—At the Great Laxey the Chairman announced that the profits enabled the directors to declare a dividend of 10s. per share, or 50 per cent. upon the capital of the company, besides carrying forward 1000*l.* to the reserve fund, which now amounts to 6500*l.* Last year alone the sums distributed amongst the shareholders and paid to the reserve fund amounted to 31,000*l.* The day before the meeting at which these announcements were made the company sold 100 tons of lead for 2357*l.*, and the day after they sampled another 100 tons. Adverting to the general history of the company, one of the directors stated that 13 years ago the company started with a capital of 60,000*l.* They had since given to the shareholders 19*l.* 13s.—say, in round numbers, 20*l.* a share, that is 300,000*l.*, and as shareholders like always to see their property standing well in the market, Great Laxey is now standing at something like another 300,000*l.*, and therefore in 13 years that for which they gave 60,000*l.* they have received 300,000*l.*, and the market value is another 300,000*l.* In other words, they have received 600,000*l.* for their 60,000*l.*

The CHAIRMAN further remarked: Capt. Woolcock reports that we have crystallised spar in the adit level more like the Laxey spar than any he has seen. This is satisfactory, considering that at present our workings are only surface workings. Our secretary informs us that the venture is very favourably received in the island, and that a large number of shares are promised to be taken up. Having nothing further to say, I now, gentlemen, place my resignation in your hands.

The provisional directors having also resigned, Mr. HARRISON, one of the shareholders, took the chair, when Mr. Jas. Caulfield was unanimously elected as chairman of the company and of the board of directors, and Messrs. T. Partington, George Harrison, and W. T. Breedon were unanimously elected directors in conjunction with Mr. Caulfield. The meeting then adjourned.

AMBROSE LAKE TIN AND COPPER MINING COMPANY.

The fourth annual ordinary meeting of shareholders was held at the offices, London Wall, on Friday, May 5,

Mr. JOSHUA MOSS in the chair.

Mr. WM. EATON (the secretary) having read the notice convening the meeting, the directors' and agent's reports were read by Mr. J. TAYLOR, as follows:—

DIRECTORS' REPORT.

Since the last annual meeting considerable progress has been made in the development of the mine. The Wheal Sisters lode (from which in the adjoining mine over 170,000*l.* worth of ore was raised and sold) has been cut, and found to be a productive copper lode. To accomplish this a large expenditure was necessarily incurred, as two cross cuts had to be driven to the lode—one from the adit level, the other 14 fms. below the adit. In the level driven from the deeper cross-cut the ore is found much better in quality and in larger bodies than in the higher level, and it has every appearance of becoming richer in depth. The shaft is sunk about 55 fms., and a cross cut 14 fms. below the present working could be at once commenced and driven up at a small cost. When the lode was cut at this depth stoping ground would be laid open, and the mine placed in a good condition for making regular returns of ore, and it is believed that it would at once become dividend paying. The ore is found to contain arsenical mundic in considerable quantities, which, at the present price of arsenic, will pay well. Six kilns have been erected for the purpose of burning it. Since the lode was reached over 86 tons of copper ore and about 12½ tons of arsenic have been sold. A few months since your directors obtained a lease of the Tin Valley set, with burning ovens, chimney-stack, buildings, &c. On this mine there is a large quantity of arsenical mundic at surface which would pay for refining, but the capital of the company being already exhausted, the board thought it necessary to take power to issue 100 2*l.* preference shares. Before taking this step they had samples of the ore assayed by a practical chemist, and an estimate given of the cost of refining and reducing it, and it is clearly shown that very large profits can be made. The works required to effect this are estimated to cost from 1200*l.* to 1500*l.*, and it remains for the shareholders to say for what amount of the necessary capital they will subscribe, as it is quite clear that, notwithstanding the very satisfactory prospects of the mine, and its apparently near approach to a dividend paying position, the work must stop unless further capital be at once raised. A number of the preference shares have been applied for, but not sufficient to warrant your directors to allot; they therefore urge their fellow-shareholders to apply at once for the remainder, and thus save a valuable property from being sacrificed, and the results of their outlay being taken advantage of by others who have expended nothing towards the development of the mine.

AGENT'S REPORT.

May 1.—I beg to submit to you my report of what has been done throughout the mine in the 12 months ending Dec. 31, 1875. The 14 fm. cross-cut has been driven

north 29 fms. 1 ft. 10 in. On driving 9 fms. 1 ft. 3 in. it intersected the middle copper lode. This lode has been opened on 34 fms. 4 ft. 9 in. A winze has also been sunk and a communication made from the deep adit to the 14, which has laid open the ground for stoping, and ventilated this part of the mine. The cross-cut has been continued 20 fms. 0 ft. 7 in. further north, and intersected the Wheal Sisters great lode. This lode has also been opened on east of the cross-cut about 14 fms. 4 ft. 6 in., and a winze sunk on its course from the deep adit to the bottom level. Throughout this drivage and sinking the lode has been large and masterly, producing copper, mundic, and tin. Several parcels of ore have been sent to market, and several tons of arsenic have been sold, also a small quantity of tin. All the pitwork in the shaft has been taken to surface, and larger pumps put down. On reaching the great lode the water very much increased, and I am of opinion we have all the water from the old Wheal Sisters coming through at our bottom level, and the old mines dry. At surface we have taken out ground and laid down new dressing-floors for copper ore, and have also taken out the foundation and put up six new arsenic kilns, with a large run of walled flues, chambers, &c. This is in full working order, and monthly returns of arsenic are now being made.

May 2.—Since Dec. 31 the bottom levels have been extended east and west on the great north lode, and throughout all the drivage it has been of a most promising character; it is from 2 to 8 ft. wide, composed of peach, quartz, copper, and abundance of mundic, with a little tin. This is the trunk lode of the district, and thousands of tons of copper have been sold from the adjoining mines, and a great many tons of tin. The lode in our bottom level, driving west, is 2 ft. wide, and much the same as last reported on. In driving east we have intersected a large cross-course, which has heaved the lode north; we are daily expecting to meet with it east of the cross-course, and I am of opinion we shall find it a good lode for copper and mundic, and the cross-course itself is producing very rich stones of copper ore. On this lode we have laid open a great many fathoms of ore ground, and the stope now working in the back of the bottom level is producing its usual quantity of copper and mundic. On the middle lode we are driving west at the 14 fm. level; here the lode has very much improved for copper, now worth 2½ tons per fathom. In this level we have a good course of ore gone down, and I would again recommend driving a deeper level from the engine-shaft to intersect those two lodes. I am quite convinced that we are just on the top of large courses of copper ore. Our bottom level is only about 30 fathoms from surface, and not so deep by 10 fathoms as where they first found the ore in the adjoining mines. We are preparing another parcel of ore for market, and have about 12 tons now on the floors, and about 14 tons of arsenic, which I have to-day received the tenders for. If reducing-works were erected we could make our arsenic worth 14*l.* per ton; the cost of refining it would be 25*s.* per ton. We should also save all our low-price copper ore and make it marketable, while it is of no value to us now; we have hundreds of tons of low-quality stuff now on the floors which would then be made marketable.—P. TENBY.

Mr. J. TAYLOR, in reply to Mr. Hernage, said that after cutting the Wheal Sisters lode the water interfered with them very much, and stopped the work for some little time; but they had put down new pumps, and now had no trouble whatever with it. During the very wet weather the water from the adjoining mine came into this one, but they had mastered that now, and the mine was, comparatively speaking, dry.

The CHAIRMAN: Our report to-day, gentlemen, is a very discouraging one, but it also gives very great encouragement; it shows that we have not been working in vain. We have all but positive proof—in fact, I think I may say we have positive proof now—that a little more expenditure would secure for us a very rich property. We not only have the workings developed in opening the mine, but we have also a very large amount of matter upon surface, which if reduced would produce a very handsome sum at a very good profit. But in order to secure the prize which we have so nearly at hand it is necessary that we should at once have an increase of capital, and I do hope that the shareholders will see the importance of that, and be prepared to furnish a sufficient amount of capital to secure to ourselves the great prize which we think we evidently have before us. I have now to propose the adoption of the reports, which have been read, and the balance-sheet.

The motion was seconded by Mr. MEGINN, and carried unanimously.

Messrs. G. Hardey and J. Meginn were then re-elected directors, on the motion of the Chairman, seconded by Mr. HERNAGE.

Mr. Baxter was re-elected auditor, at the same remuneration as before (10 guineas), and the meeting closed with a vote of thanks to the Chairman.

DOLCOATH MINING COMPANY—THE BORING MACHINE.

The three-monthly meeting of adventurers was held at the mine, on Monday,—Sir F. M. WILLIAMS, Bart., M.P., presiding.

It appeared from the accounts that the tutwork and surface labour cost and wages for the month ending Feb. 19 amounted to the sum of 2163*l.* 14*s.* 2*d.*; for the following month, 2083*l.* 3*s.* 2*d.*; and for April, 2118*l.* 18*s.* 7*d.* The tribute cost during the same period has been 1071*l.* 4*s.* 3*d.*; the merchants' bills, 3256*l.* 6*s.* 5*d.*; and parish rates, 100*l.*: making a total of 10,793*l.* 10*s.* 11*d.* The credits were, for 295 tons 16 cwts. of tin ore, after deducting 649*l.* 1*s.* 4*d.* for dues, and adding 14*l.* 4*s.* 1*d.* for the extra carriage of tin, 12,346*l.* 10*s.* 11*d.*, leaving a profit on the three months' working of 1553*l.* 4*s.* 4*d.* The committee recommended the payment of a dividend of 7*s.* 6*d.* per share, amounting to 1611*l.*, leaving a credit balance of 134*l.* 7*s.* 9*d.*, as against 192*l.* 3*s.* 5*d.* brought forward at the last meeting. The agent's report was as follows:—

The engine-shaft is sunk 7 fms. under the 326. The south part of the lode on which we are sinking produces a little tin, but the best part of the lode is standing to the north of the shaft. When last cut into that part was worth for the length of the shaft (12 ft.) 120*l.* per fathom; and, judging from a hole which we have just had bored into it at the deepest part, we believe it to be still of the same value. The 326, east of engine-shaft, is worth 40*l.* per fathom. The 326, west of engine shaft, is worth 65*l.* per fathom. New east shaft is sunk 2½ fms. under the 314; the lode is worth for 9 ft. long 30*l.* per fathom. Old sump shaft is holed to the 314, and prepared for drawing to that level. We are now cutting ground for plat, and shall shortly commence to sink deeper in a lode worth for 9 ft. long 30*l.* per fathom. The 314, west of old sump, is worth 20*l.* per fathom. The 314, east of new east, is worth 10*l.* per fathom. The 302, east of new east, is holed to the winze under the 290. The ground here is very soft, and produces tin that can be worked at a moderate tribute. The 290, west of old sump, is worth 15*l.* per fathom. We are sinking a winze under the 278, just before this end, where the lode is worth for 9 ft. long 15*l.* per fathom. The 264, west of Harriett's, contains a little tin, and is likely to improve. The winze under the 248 fm. level, 6 fms. before this end, is sunk 7 fms., and worth for 9 ft. long 15*l.* per fathom. The 248, west of Harriett's, is producing a little tin, with a promising appearance. The winze under the 236, 5 fms. before this end, is sunk 8 fms., and worth for 9 ft. long 45*l.* per fathom. The 236, east of Stray Park, is worth 18*l.* per fathom.

The report and accounts were adopted, and a dividend of 7*s.* 6*d.* per share declared. On the recommendation of the committee, Capt. James Johns was appointed as one of the agents of the mine, in the room of the late Capt. Tonkin.

Capt. THOMAS, referring to the Barrow boring-machine which has been at work in the mine for some time past, said it would be remembered that at the last account they were about to put the pipes in one of the eastern ends, in order to fix the machine for the purpose of driving into the valley, and proving that part of the mine. They got the pipes into the end, and just as they were thinking about working they cut into a very soft piece of ground which had continued up to this time; it was, in fact, so soft that it did not require boring at all, and they had been obliged to timber the ground in order to keep it open. It was rather curious to find so soft a piece of ground at such a great depth below the surface, but it would help them onward considerably towards the valley. In the meantime he received a letter from the patentees of the Barrow rock drill, saying they feared the machine was not having a fair trial, they much preferred taking contracts themselves, and they asked for leave to have an end or two to drive, offering to take them at the same price that was now given for hand labour. (Hear, hear.) Of course this was an offer which could not well be refused; the mine had nothing to lose, and the patentees of the drill would have the satisfaction of knowing that the machine had fair play. Therefore, the committee of the mine requested him to make arrangements with the company, and this he had done through Mr. Loam, their engineer. He had that morning received a letter from Mr. Loam in which he said:—"I returned yesterday from Barrow, where I have had opportunities of seeing the patentees of the boring machine. They wish, and I think it will be best for them and the mine, to work the machine themselves by a contract to drive one or two ends to see what it can really do, at the price you pay for hand labour. I told them I would recommend you to accept their offer, subject to such arrangements as you may think necessary in the interests of the mine. The machine is fully maintaining its position in the Barrow district, and in one of their mines the manager has driven a cross-cut which he would not have undertaken by hand, from the distance to be driven and the time it would have taken, and it has opened out a new mine of great and permanent value. It is also being successfully extended into the Cumberland district. I confess I felt mortified to see what it is doing in those districts in the hands of Cornishmen, and to find that at home we cannot succeed, and that our men will not try. There the men upon trial so appreciate the machine that they will not—and object to—drive rock ground without it. It is this personal advantage to the men themselves that I want our men to see." He (Capt. Thomas) thought it would be to the advantage of the mine if they could drive faster than at present, and the Boring Machine Company would not be able any longer to say that their machine had not had fair play. With regard to the statement of accounts, he hoped the adventurers, under all the circumstances, would think that they were very favourable. At the last meeting it was generally thought that the price of tin had got so low that it was almost impossible it could go any lower; many people, indeed, were of opinion that would soon advance, but only a few days afterwards it began to decline, and the average price for the past quarter, as compared with the previous quarter, was just 4*l.* per ton less, making a difference in their credits of nearly 1200*l.*, or equal to a dividend of more than 5*s.* per share. The last time that tin was as low as at present was in the year 1849, when Dolcoath sold a few parcels of tin at as low a price as 38*l.* 10*s.* a ton. In 1866 tin was about 47*l.* a ton for three or four months, and at that time Dolcoath was only able to give a dividend of about 35*l.* in two months, and even that was given principally from a bunch of copper which they had in the mine, so that really at that price they were making no profits at all upon tin. But now that tin was 3*l.* a ton lower, materials much high, and the mine considerably deeper, they were able to make a profit of more than 1550*l.*, and this must be considered as highly satisfactory. (Applause.) How far it was wise to continue to raise such a large quantity of tin as they were at the present time raising was perhaps somewhat difficult to determine. His own impression had been that it was far better for the legitimate interests of the adventurers generally that they should reduce their costs as low as possible, and raise just tin enough to pay their costs. He knew that was the opinion of several large shareholders, but dividends were now so scarce and calls were so numerous that, taking everything into consideration, it was thought better to go on as they were, in the hope that the tin standard before long would improve. There was another matter to which he ought to refer, inasmuch as it had found its way into the newspapers, the writers of which seemed to meddle in everybody's business—the stocking of tin. Of course, the adventurers had understood for several months past that they had been stocking tin at Dolcoath, and about six months ago the question was put to him by Mr. Rule as to how much tin they had in stock at that time. It was not thought desirable to let the smelters or the world know what the exact state of affairs was, and he believed he did say the papers were incorrect in stating that they had as much as 400 tons in stock—because they never had anything like that quantity—and he said so still. It was true that they had some tin in stock, and if the adventurers generally wished to know what the amount was he was quite prepared to tell them. About three years ago they stocked some tin, and in one quarter they made a profit of 1000*l.* by so doing; at the present time if they sold they would make a loss, but they hoped tin would advance again, and that they would be able to realise a good profit upon the sale. But even if a loss were eventually made the committee did not pretend to be infallible: they made mistakes sometimes like other people, but the misfortune was that if they did ninety nine things right and one thing wrong, they were far more blamed for the one thing wrong than praised for the ninety-nine things right. He hoped, however, that the policy which they had adopted would prove to be the correct one, and that no loss would result to the adventurers by reason of their having stocked their tin.

Capt. JAMES asked whether the Barrow drill, so far as it had been tried, had proved to be a success, and whether in the event of the offer of the company being accepted it was their intention to take over the air compressor and all the necessary machinery for compressing the air at a fair valuation, or would that machinery be given gratuitously? So far as the drills were concerned, he considered that up to this time they had been a failure, but perhaps with some little improvement they might finally succeed. There was, however, a great deal of prejudice existing abroad as well as in the county against them, and practical men in Cornwall were said to be prejudiced if they expressed an opinion with regard to those machines. He was quite sure that most mine agents would discard such a notion, but at the same time he could not see why they should acknowledge a success unless they actually witnessed it. If the rock-drill were a success let them by all means support it, but if it were not a success then he for one would give it no support even at the risk of being told that he was prejudiced against it. His own firm conviction was that there was no rock-drill which would ever compete in Dolcoath with manual labour; indeed, he did not think there was a rock-drill ever made that would compete with Cornish labour. A great deal had been said as to the speed at which the rock drill could work, and that the work could be done very much faster, but in his opinion this had yet to be proved. At the same time let the thing have a fair trial, and if the result was satisfactory no one would rejoice more than himself.

Capt. THOMAS explained that the first Barrow drill which they had on the mine was not strong enough for the hard ground which it had to penetrate, and it had to be constantly brought to surface for repairs, but in spite of these delays it was found that the machine worked quite as fast as hand labour. In accepting the offer of the Barrow Company it was proposed that they should supply their own materials, but that for a month or two they should be allowed to use the air-compressor and the pipes that were on the mines. These pipes were laid by Mr. Dœring, and did not cost the adventurers anything.

Mr. RULE thought that as Mr. Dœring had laid out 15,000*l.* or 16,000*l.* in the district the same chance should be given to him as to other inventors. He believed Mr. Dœring's rock-drill was better adapted to Cornish mining than the one which they now in use at Dolcoath. He understood that Mr. Dœring owed about 200*l.* to the mine, but surely they would not charge him with that paltry sum after all the money he had expended.

Capt. THOMAS: He worked his machine at the mine for a year and a-half, and he then left because he could not make it succeed. We did not dismiss him. I have not understood that he has made any improvement in his drill since that time, but he has seen ours, and I believe he admits that it is far superior to his own.——Mr. RULE: Mr. Dœring is open to introduce his machine again if he can get any support, and I can guarantee that it is a great improvement upon the one which we now have.——Capt. THOMAS: He has never made any such offer to us. We gave him 17½ per cent. above the price of hand labour if he could drive twice as fast, and that is an offer which we have not made to the Barrow Company.——Mr RULE: Perhaps having spent all his money Mr. Dœring was not prepared to go any further. But if the adventurers can back him up I think they ought to do so.——Capt. THOMAS: He owed us 200*l.* or 300*l.*, and left the pipes on the mine in payment of that money.——Mr. RULE: But you do not mean to say you would make him pay that money after the thousands he has spent here?——Captain THOMAS: He has not spent it on this mine.——The proceeding then terminated.

The Dolcoath Mine has been in the possession of the present proprietors since 1799, and during the last 76 years over 5,000,000*l.* of ore has been obtained from it. It is not known when this celebrated mine was first opened, but it had been closed twelve years when the present company took possession. It has certainly been a paying concern to those who have had the courage to hold on. Twenty years ago a share could have been obtained for 15*l.*, and during those 20 years that share has received over 1800*l.* in dividends. In 1872 the mine made a net profit of over 50,000*l.* Dolcoath and several other of the principal mines in the district are under the management of Capt. Josiah Thomas, one of the ablest and most experienced men in the profession. The lord of Dolcoath, that is the owner of the soil, is Mr. Basset. The lord receives 1-18th or 1 20th of all the ore raised. Many of the Cornish landowners have thus realised large fortunes from their highly favoured property. It is much to the honour of some of these gentlemen that during these times of depression they have foregone half their rights. At the same time, it is to their interest to make these concessions, for if the mines fail to pay expenses they must be closed.

EAST POOL MINING COMPANY.

The two-monthly meeting of adventurers was held at the mine on Monday. Mr. R. R. BROAD (the Chairman) congratulated the adventurers on the mine being able to pay the same dividend as was paid at the last account. There had been some difficulty in bringing matters to so favourable an issue, and they would no doubt agree with the committee that the agents deserved their best thanks and heartiest congratulations for the exertions and ability that had brought about such a satisfactory result. As to the natural product of their mine, they had reached the height of their ambition, and their difficulty now was to turn what they had got into money. As, therefore, the tin and copper market had not advanced materially since the last account, it was very gratifying that they were still able to pay a dividend of 2*s.* 6*d.* If they could obtain the prices that ruled two or three years ago that dividend would be 7*s.* 6*d.* or even 10*s.*, and he hoped the time was not far distant when their profits would be much increased. Events ran in cycles, and by-and-bye time would bring them round to prosperity again. Although the price of tin was still very low it was satisfactory to know that the stocks were reduced, so that when the price was better there would be no large stocks to place on the market to lower it. They had heard lately of a reason for the continued demand for tin from a cause that was very easily understood. The price of tin is now 17*l.* a ton less than copper, whereas in former days it was 17*l.* a ton more than copper. Now, therefore, it was quite worth while for the brass-founders to use more tin in their admixture, and it was well known that the larger the quantity of tin the greater was the induration of the brass. The stocks of tin being, therefore, continually reduced by this means, nothing would then interfere with their enjoyment of better prices when they came. With regard to the mine itself, the more they took out of it the richer it seemed to get.

The accounts showed that the labour costs for the two months were 3113*l.*, merchants' bills, 1399*l.*; Wheal Agar was paid 50*l.* for excess of fuel in pumping, the Illogan highway rate was 59*l.*, the Stannary assessment 9*l.*, and Mr. G. L. Basset was paid for dues—1-15th for copper, arsenic, and wolfram, and 1-18th for tin—331*l.* The total expenditure for the two months was 4963*l.* On the credit side 917*l.* had been received for copper, 2626*l.* for tin, 1446*l.* for tinstone, 8*s.* for wolfram, and 660*l.* for arsenic. The total receipts were 5675*l.*, leaving a balance of profit on the eight weeks' working of 711*l.* 16*s.* 3*d.*, which, added to the 149*l.* balance at last account, made a credit balance of 861*l.* Out of this sum it was proposed to pay a 2*s.* 6*d.* dividend, which would absorb 800*l.*, leaving 61*l.* 9*s.* 5*d.* to be carried forward. In the minutes of the committee it was stated that in accordance with a clause inserted in the new lease by Mr. Basset, the men had been allowed to select their own doctor. The following report of the agent was then read:—

May 8.—Great Lode: At the 180 during the last month we have been rising in the back of the level close to the present end, now up about 9 ft.; the lode is about 3 fms. wide, mixed with decomposed granite, worth 20*l.* per fathom. The 180 is driven west of cross course 13 fms., and is worth for tin 15*l.* per fathom; we have five stopes working in the back of this level, two west and three east of cross-course, worth on an average 14*l.* per fathom each stope. The cross cut at this level is driven 20 fms. south to intersect the engine and south lodes. The sump winze sinking below the 180 is down 5½ fms.; the shaftmen are removing attle, and putting in timber, so as to make a shaft through the gunnies, so as to work a lift in this winze and skip if required; value for tin 18*l.* per fathom. In the 170 we have two stopes working in the back of the level worth for tin 10*l.* per fathom each stope. In the 160 we have a stope in the back of this level, on the eastern ground, worth for tin 14*l.* per fathom.—Engine Lode: At the 170 we have driven west on a caunter lode 5 fms.; worth for tin 6*l.* per fathom. At the 160 we have two stopes working in the back of this level; worth for tin 15*l.* per fathom each stope. The 155, driving east, is worth 8*l.* per fathom.—South Lode: The 160 is driven east of long winze 27 fathoms, and is worth for tin 17*l.* per fathom. The 150, east of eastern cross course is worth for tin and copper 8*l.* per fathom. The 140 is driven east of long winze 20 fathoms, and is worth for tin and copper 14*l.* per fm. The winze sinking in this level is down about 8 fathoms, but being between two branches or lodes it is valueless. There are eight stopes working tn the back and bottom of the 130, worth on an average 12*l.* per fathom each stope. The 120 is driven east 20 fathoms, and is worth 9*l.* per fathom for tin and copper.—JOHN MAYNARD, Manager.

Dr. MICHELL mentioned that it had been suggested to the committee that it would be advisable to have three-monthly instead of two-monthly meetings in conformity with the practice of tin mines in general. He mentioned it that adventurers might think over the matter, which would be brought up for decision at the next meeting.——The CHAIRMAN said the alteration would in no way diminish the dividend.——The PURSER (Mr. Martyn) said three-monthly meetings would involve a less number of stock-takings, and, consequently, less hindrances in the working of the mine.

The accounts were passed and the dividend declared, and before the meeting separated Capt. MAYNARD said he believed the mine was as good as ever it was. What they wanted was a better price, and he was in hopes this would be realised ere long. Their costs were pretty high, but for the last four months they had had 16 men working at timber, with others helping.—*Western Daily Mercury.*

ECLIPSE GOLD MINING AND QUARTZ CRUSHING COMPANY.

The general meeting of shareholders will be held at the London Tavern, on Thursday, when the following report will be read:—

In presenting their annual report, the directors have to announce that since they last had the pleasure of meeting the shareholders great progress has been made in the various works at the mines.

It will no doubt be remembered that at the second ordinary general meeting of the company, held on April 2, the directors proposed to raise the sum of 5000*l.* by the issue of 200 mortgage debenture bonds, of 25*l.* each, for the purpose of putting in efficient working order the tramway, ditch, and mill, for which Capt. Eudey had furnished an estimate. The whole of this amount has been subscribed for, principally by the directors and their friends, and by this means Capt. Eudey has been enabled to carry out the works proposed by him. These operations were completed towards the latter end of November last, and with what result will be seen from the report furnished by Capt. Eudey.

Capt. Eudey, in his anxiety to obtain as large a yield of gold as possible, unfortunately, by working the whole of the 20 stamps with only four pans and two settlers, attempted too much: the consequence was that the pulp passed too quickly through the gold-saving portions of the mill to allow, first, of proper amalgamation in the pans; and, secondly, sufficient precipitation in the settlers, an evil believed to be further aggravated by the absence of an apparatus for conveying heat to pans.

Since the directors have been made aware of the absolute necessity of using additional settlers, and also the heating apparatus to assist in the amalgamation of the gold, instructions have been given to Capt. Eudey to provide same, and for which he has been supplied with funds upon the personal responsibility of the directors. From recent advices the directors learn that these appliances are progressing towards completion, and it is estimated will be ready for active operation by the end of June. The directors feel hopeful that by working with 10 or 12 stamps, and the additional improvements named herein, a profit such as will give confidence to all interested will be obtained, and that by a further outlay of a comparatively small sum that profit will be more than proportionately increased.

The directors beg to notify that Mr. Willett, who has within the last few months visited and returned from the mines, where he resided for some time, will be present at the meeting, and will have pleasure in giving the shareholders, having been an eye witness to facts, his views on the future prospects of the mines.

In consequence of the retirement of Mr. Casswell, the late Chairman of the company, from the board of direction, the vacancy has been filled up by the election of Mr. S. J. Wilde, Chairman of the Nerbudda Coal and Iron Company (Limited).

FRONTINO AND BOLIVIA GOLD MINING COMPANY.

Another instance of the success attending well-directed efforts in mining adventures is now being realised in the case of the properties belonging to the Frontino and Bolivia Company. After many years of not very varying fortune, but of almost continual losses, this company will enter the Foreign Dividend List in the course of the present month, and too much praise cannot be bestowed upon the directors, whose zeal and perseverance have brought about such a happy result. It is not many years since the affairs of this company were at so low an ebb that it was well nigh being wound-up, but the shareholders, fortunately, had a gentleman at the head of the direction whose well-founded faith in the great value of the properties they possessed has never wavered, and with great determination on his part some 10,000*l.* was raised upon debentures, though upon very onerous terms. This enabled the company to keep on its legs, and continue the working of the mines, and it is most gratifying to see such faith and determination rewarded by success. Not only have those debentures been paid off in full, with interest, but the past year has resulted in a net profit of upwards of 10,000*l.* Although this amount is not a bad sum for a property that had previously for so long been struggling to pay its way, and is sufficient to pay a handsome dividend to the proprietors, there is little doubt that it is only an earnest of the future profits which will be reaped by this company.

One or two extracts from the manager's (Mr. R. B. White) report, dated Feb. 12, will give some idea of the richness of the mines, and the great results yet to be sought for in the property. He says—"The greatest merit that these mines have in my eyes is their sure character; we have them thoroughly examined at the cost of other people; we take them into our hands if we choose, and if not we leave them on lease or abandon them. Anyway the company cannot lose money on them; and the best thing of all is that there are plenty more mines to take the place of those at present in work. With care and judgment in selecting, and prudence and patience in extending and organising our establishments, the company will become immensely rich and powerful. The great thing is not to overdo anything, to keep our schemes within the limits which the resources and circumstances of the country point out, and take our every step on firm ground. You may be sure we are not going to stand still. The point called 'height of prosperity' is yet a very long way off, but we are going there." Further on he states—"Now, I believe we can continue this system, and extend it to such a point as to enable the company to pay dividends of 20 and 30 per cent. on its whole capital. I will not say more, for I do not wish you to think I am overstraining our good prospects."

So far the company have not been able to work the richest part of their property, but suitable machinery has now been erected at the El Silencio Mine, from which alone Mr. White is fully convinced a further net profit of at least 1000*l.* a month will be obtained. In addition to this El Silencio and the other mines now being worked by the company, the property comprises some dozen further mines, which are let to tributers, who are also making considerable profits out of their working. These tributers' mines, as the leases fall in, will be worked by the company if considered desirable—one lease, that of the Palmichala, falls in this month, and the profits which the tributers have been making from it, about 500*l.* per month, will be obtained by the company.

Great credit is due to Mr. White, the manager, for the practical and energetic manner in which he has worked the properties; and after the proof he has given of the soundness of his views in the beneficial changes resulting from his management, too much reliance can scarcely be placed upon his reports, especially when confirmed by large monthly remittances of the precious metal. There are many other points of importance which might be mentioned, but probably we have said enough to draw attention to the property; anyone wishing to know more will no doubt find it very easy to obtain every information. We congratulate those who have held their shares, and their patience will, no doubt, be now amply rewarded.

NEW ZEALAND MANGANESE.

For many years the manganese market was commanded almost entirely by one firm, whilst the comparatively limited demand and the circumstance of all the principal deposits in Europe being under their control, and kept idle, no difficulty was experienced in keeping up prices so long as the monopoly was untouched, and swamping the market, and so sending down prices to a mere nominal figure whenever a competitor appeared. Since then, however, additional uses have been found for the ore, and new producers, thus finding other outlets for it besides those formerly existing, the market became more open, and the working of other properties has become practicable. During the past year one of the new caterers for business has been the company registered some 12 months since under the title of the NEW ZEALAND MANGANESE MINES, and from the result of their first year's operations they may be well congratulated upon their success and prospects. The company was registered at the end of December, 1874, with a capital of 35,000*l.*, in shares of 1*l.* each, whilst, as will be seen from the report of the general meeting in last week's Journal, the directors paid one 10 per cent. dividend in March, 1875; another of equal amount at the meeting in question, whilst the balance of the cargoes now coming forward will suffice for the payment of another 10 per cent., making, as the Chairman explained, 30 per cent. for the year. Upwards of 500 tons have been sold during the year, realising the handsome sum of 4267*l.* 12*s.* 2*d.*, and the company have now forthcoming upwards of 3000 tons more, the estimated value of which is 18,720*l.*, the estimated profit for the year being no less than 12,745*l.* 10*s.* 1*d.*, which leaves 3743*l.* 17*s.* 6*d.* at the disposal of the board after paying the 20 per cent. dividend and the debenture interest to the end of the past year.

The encouraging prospects of the enterprise cannot be better ascertained than from the observations of the managing director—Mr. Scott—that all the information from the colony was very satisfactory. The shipments which has reached this country amounted to 916 tons, and those arriving to 535 tons, so that they had realised an aggregate of 1451 tons. If the tramway had been in full working order they would have had 500 tons more. The distance being so great, delay had been unavoidable, the labour involved had also been considerable, they had had to construct buildings for the workmen, a floating pier, and they had now a wire tramway which would be a credit to New Zealand. Hitherto the chief source of manganese had been Spain, but the Spanish was of much inferior quality, assaying 62 per cent. to 65 per cent. of peroxide, whilst that of New Zealand reached 80 per cent peroxide of manganese. The price was quoted for 70 per cent. peroxide, and was at present about 6*l.*, for each 1 per cent. above or below 70 per cent. an addition or deduction of 2*s.* 6*d.* was made, so that suppose they sold a cargo, which Messrs. Teschmacher and Smith showed to contain 78 per cent., they

would get not only the 6*l.*, but eight halfcrowns in addition. At present Spanish could scarcely be worked to a profit, though Spanish was profitable in 1872 and 1873 when prices were over 7*l.* per ton. At present prices their New Zealand manganese gave them a good profit. More than a good profit per ton upon an inexhaustible supply, which the company's manager in New Zealand declares that they possess, can scarcely be desired, and that no efforts will be spared on this side to find a market for all received may be judged of from the energy which Mr. Scott has displayed in already opening up business relations with Antwerp, Dunkerque, Stettin, Brussels, and elsewhere, and being now in negociation for selling a parcel in Copenhagen.

The estates of the company appear to be admirably situated for working, as they are upon the estuary of the Waikare, a tidal river, and have an unbroken river frontage of about two miles. The Oranga Mines, held on lease, but subject to no royalty, connected with the Waikare, are comprised in the same purchase. As yet this is the only mine at the Bay of Islands worked by the company. The directors have shipped to the colony another wire-rope of three miles in length, with requisite equipment, and have also purchased an additional wire-rope of like length in the colony for extension of the tramways, and to enable the managers at the mines to open out other properties. The acquisition of the properties comprised in the recent purchase will tend to exclude competition, and greatly improve the future position and prospects of the company. The new capital raised at the beginning of the year will put the concern in a thoroughly strong financial position, and as much dead work has been done it is not anticipated that henceforward anything will interfere with their onward progress, more especially as all the workings are run in on the hillside, so that the difficulties and expenses of draining will never be encountered. The prospects are altogether exceedingly encouraging, and the directors evidently intend to turn them to the best account.

IMPROVED POCKET THEODOLITE.

There are many cases in which the practical engineer would find it very convenient to have a theodolite with him, although it might scarcely be necessary to burden himself with the comparatively cumbersome instrument usually employed, and it is to meet these cases that Mr. GEORGE FRANCIS, of City-road, has designed the pocket theodolite, of which the above is an illustration. The new instrument consists of two arms, one end of each being square and the other circular; these arms are pivoted together at their circular ends, one arm being considered the fixed one, and the other the movable or revolving one; on one or both of the circular ends the requisite scale is marked for measuring angles to the extent of half a circle, and a vernier scale is fixed or marked on the movable arm, by which angles can be measured to 1-20th part of one degree; suitable folding sights are fitted on the upper flat side of each arm for taking horizontal angles, and on the edge of one of the arms for taking vertical angles either of altitude or depression; a spirit level is fixed upon the surface of each arm at right angles to each other, and also one on the edge of each arm for the purpose of setting the instrument to the true horizontal level, and to secure general accuracy. That the instrument may be equally valuable for dialling purposes, Mr. Francis has provided in the upper part of the circular end of the fixed arm a sunken recess, in the centre of which a magnetic needle is pivoted or balanced, the points of the compass and the degrees being marked in the recess.

When using the instrument it is screwed to the neck of the ball and socket joint, a groove or opening in the side of the said socket being cut or formed to allow the neck to be turned down horizontally for the purpose of taking vertical angles. To facilitate the adjustment when placed on its stand, the ball and socket joint can be tightened by a clamping screw. Under the ball and socket joint there is a rotary horizontal movement for the purpose of taking the underlie in any direction from one stand point. On the upper face of the arms is a scale of from 1 to 60 ft. to the inch for reference and general purposes, and a scale of equal parts; also on the inner half of the circular end is a protractor scale, which can be used when the arms are fully open. The instrument can also be used for ordinary levelling by first setting it perfectly horizontal by the aid of the spirit levels and ball and socket joint; the usual back and forward sights are taken through perforations formed in the upper part of the sights for that purpose. The tripod closes into an ordinary walking stick, and the instrument is altogether an exceedingly useful and convenient one.

FUEL ECONOMISING FURNACE DOOR.

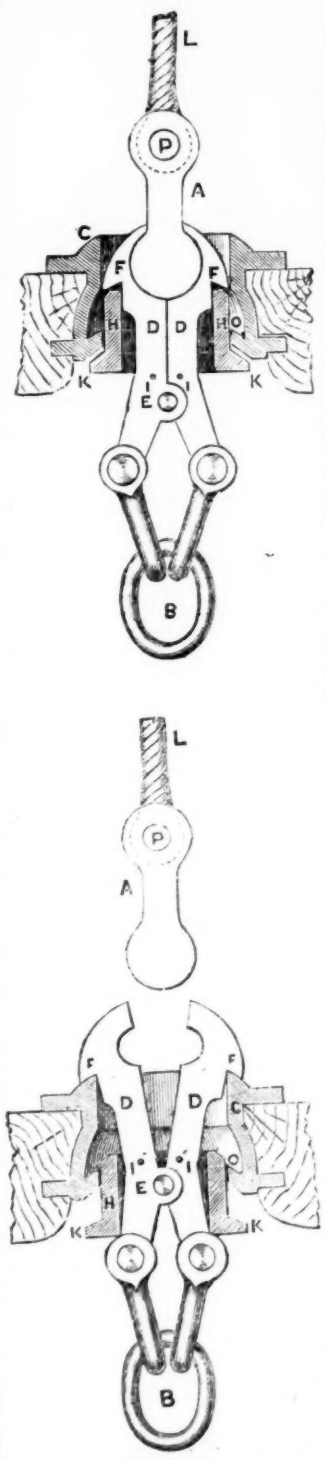
During the past quarter of a century probably few names have been heard more of in connection with the subject of smoke prevention than that of Mr. T. Symes Prideaux, and he has now succeeded in producing a furnace door which not only effectually prevents the making of smoke, but for simplicity and the economising of fuel appears to leave nothing to be desired. The invention, which was publicly shown at Messrs. Butler and Askie's, Grove Engineering Works, Southwark, on Monday, and which is at present in the hands of PRIDEAUX'S PATENT FUEL ECONOMISING COMPANY, has borne the test of four years' experience, and has given complete satisfaction. The first apparatus erected under the patent were applied to four Cornish boilers in April, 1872, and have been constantly at work ever since, no repairs have been necessary, and the average weekly saving is estimated to have been 10½ tons, representing an economy of 600*l.* per annum. Perfect combustion is so nearly attained that no smoke is emitted, whilst the face of the furnace door is so cool that the back of the hand may be placed on it without inconvenience. The apparatus consists of an improved fire-door, with solid front and grated back, so arranged that all the air admitted above the fuel must pass into the door and through the back grating, the necessary consequence being that it becomes thoroughly heated, so that there can be no diminution, from the admission of cold air to secure combustion, in the quantity of steam generated. Having thus removed the great objection to most of the smoke-preventing apparatus, Mr. Prideaux goes further, and attains considerable economy by regulating the quantity of heated air admitted, his object being to fulfil what in his treatise on the "Economy of Fuel," published in Weale's Scientific Series, in 1853, was declared to be necessary by his statement that "the cardinal point in economy of furnace management is the adjustment of the air supply to the varying wants of the fuel." The adjustment of the air supply is effected by the automatic opening of a small shutter above the fire-door. This shutter is connected by a small rod with an ingeniously arranged and tightly-closed mercury chamber, containing a plunger and a cylindrical piston. When the shutter is closed the mercury is within the piston, which nearly fills the chamber, and is provided with a small orifice at the bottom. Upon the fire-door being opened the rod lifts the piston against the plunger, and forces the mercury through the orifice into the chamber, the shutter being at the same time opened to its full extent. The weight of the shutter causing the piston through the rod to bear upon the surface of the mercury in the chamber, the mercury is gradually forced through the orifice into the piston, and the shutter closes.

It will thus be seen that immediately after coaling the apparatus provides the furnace with an additional supply of air, which supply gradually diminishes in quantity, and eventually ceases altogether, after a certain definite period of time for which the apparatus is regulated—usually about five minutes. Thus, taking the ordinary coaling interval at fifteen minutes, the admission of air above the fuel is restricted to the first third of this interval, and as the apparatus is half closed at the expiration of two and a-half minutes, the total quantity of air passing is only one-sixth of what enters the furnace on the wasteful system of continuous supply. Mr. Prideaux states that it is easy to waste 40 per cent. of the fuel in a furnace by mismanagement of the air supply. In an ordinary steam-boiler, for example, the effect of making holes in the door or bridge, as very commonly recommended to get rid of smoke, is greatly to diminish the supply of steam, necessitating hard firing, and the consumption of 25 per cent. more coal to do a given amount of work; whereas by correctly regulating the air supply a saving of from 15 to 20 per cent. of coal may be effected, making a difference of upwards of 40 per cent. in the relative economy of the two systems. To secure the entrance of the required amount of air and no more, to ensure that this supply shall vary in quantity with the wants of the fuel—that is to say, be greatest after coaling, gradually diminish in amount throughout a space of about five or six minutes, and then cease altogether—it is indispensable that the regulation of the feed of air, be placed under the control of automatic mechanism, which not only far surpasses in regularity as to time and equability as to motion the limits attainable by the utmost watchfulness of man, but is free from the liability to the omissions from negligence inseparable from human superintendence, especially where, as in marine furnaces, that superintendence would be of an exceptionally monotonous and wearisome character, and carried on in an atmosphere most oppressive and exhausting.

The testimonials received with regard to the efficiency and economy of the apparatus have been most encouraging. Mr. W. T. Henley, the well-known telegraph engineer, having used 12 doors for upwards of a year, states that they are very efficient in preventing smoke, and he considers they effect a saving of at least 25 per cent. in coal. Messrs. Wm. Muir and Co., of Britannia Works, Manchester, in ordering additional doors, say that the former has saved them a considerable amount of fuel, and that if they obtain equally beneficial results from those now ordered they will be well satisfied. These and the many other similar testimonials which the Prideaux's Patent Fuel Economising Company are enabled to submit suffice to show that the invention has really much to recommend it.

PREVENTION OF OVERWINDING AT COLLIERIES.

The desirability of employing apparatus for preventing injury to life and property in case of overwinding has frequently been pointed out in the *Mining Journal*, and attention is again drawn to the improved detaching hook invented by Mr. T. WALKER, of Oxford-street, Birmingham, and represented in the diagrams. Before describing the apparatus it may be well to consider why such safety apparatus are necessary in all mine workings.



It must be at once conceded that overwinding, so far as its causes and effects are concerned, is not unwrapped in such mysterious origin as many of the other problems which the mining engineer has to investigate. Thus, for instance, the investigation of various kinds of explosions is a far more difficult problem, owing to the reasons that generally those who could give the most reliable evidence become the victims of such mishaps; moreover, the causes are in many instances so obscured that until all the laws of Nature are written and clearly defined in the statute book of science we must continue to attribute what is now called an accident proper to excusable ignorance. This latter plea, however, cannot be advanced in cases of overwinding, the causes of which can be easily ascertained, and these being once known there are much greater facilities for finding the means by which to counteract them, and so prevent them producing an effect. The putting in motion of all winding arrangements is left to the engine tenters, and it is evident that the greater the tax which is placed on his judgment or intellect the greater will be the risk of the latter proving deficient in an emergency. To arrive at a conclusion on this point, the writer has chosen some collieries, and having ascertained the time occupied in each cage journey and time taken for landing at each of these pits, has found that the average time occupied in each journey is but 2⁸ seconds, being in one instance as low as 15 seconds. In a shift of 12 hours the average journeys up and down of a single cage is 258, which would require the winding engine to be stopped and started 1032 times, or 86 times to the hour, which amounts to being once manipulated every 41·9 seconds during the day. Though these figures show the amount of duty expected from the engines to be enormous, in point of fact they are by far exceeded in several of the collieries he has chosen; thus at the Kiveton Park and Cinderhill No. 1 collieries the engines are manipulated on a day's average once every 30 seconds. To expect this amount of duty from one man is unparalleled in the annals of the labouring world, and certainly exceeds that expected even from the overworked railway servants, with whom so much sympathy is shown at the present day. The work thrown on to an engine tenter's shoulders shows that he is taxed to his utmost capacity, and if adding to this the possibility of his having his attention distracted by people entering the engine-house at a critical moment, or that he may fall a victim to a sudden fit or even death itself, it will be seen that even the best man may commit faults at a time when his fellow-workers most require his fullest attention. But independent of the faithful discharge of the engine tenter's duties, he has still to depend on the truthful mechanical working of his winding engine—a slight irregularity in the brake arrangements, an unforeseen breakage of the winding-engine, and the engineman may make the best use of his shutting off steam and brake arrangements—yet, in spite of all his commendable skill, up flies the cage over the head-gear, carrying destruction and possibly death in its course. Thanks to the improvements which a long series of years have brought to bear on winding-engines, and thanks to the powerful brakes applied to such machinery, overwinding mishaps are, as a general rule, more attributable to human than to mechanical deficiencies. No doubt a high grade of proficiency is required, though it cannot be disputed that the exactitude acquired by long practice is remarkable in the majority of cases, and developes amongst them the aptitude of observing such delicate problems; yet however careful and intelligent the men may be it is neither safe nor prudent, to say the least, to rely solely on their attention where so much is at stake. Pit owners and managers have had such ample time allowed them to recognise the costliness and folly of neglecting to provide proper means for rendering the shaft workings safe, that it may be reasonably hoped that some of the many suggestions which have been submitted from time to time may be speedily put into practice, in spite of what has been advanced against such interference.

The above diagrams illustrate one of these apparatus, which is designed for the prevention of overwinding accidents—Walker's Detaching Hook. Fig. 1 shows in section a front view of the hook drawn into the supporting ring and clamp, just before the libration of the lifting rope. Fig. 2 represents the subsequent liberation of the latter. The construction of the hook may be thus described:—A pair of jaws, D, D, are mounted scissor-fashion on a centre pin, E, so that any weight attached to the lower ends will have the tendency to open out the upper limbs, F, F, of the hook. A movable clamp, H, pressing on the upper surface of the upper limbs, F, F, serves to keep these upper jaws close together, so that their inner surfaces may retain and hold fast the shackle, A. To prevent the clamp, H, from sliding down the jaws, and thus allowing the latter to let go the shackle when not required, two pins, I, I, are passed through and project on each side of the limbs, immediately under the clamp, H. Thus the possibility of pieces of coal or ore falling down the shaft and striking against the projections, K, K, of the clamp, H, which would have a tendency to work the clamp, H, off its inner contact surface is, if not avoided, still rendered harmless. The top part of the shackle, A, has a small set screw, which prevents the pin, P, from working loose, and which must be removed before the pin can be unscrewed to fix the top shackle direct on to the eye or socket of the rope. The ring, C, is so constructed that whilst allowing the upper jaw limbs to pass through it, the greater diameter of the clamp projections, K, prevent the latter from going through.

To reduce the shock as much as possible in a case of overwinding, the upper edge of the ring, C, is curved to match the sweep of the jaw-hooks when opening, and to meet the possible case in the arrangement of the jaws failing to grip before the hooks reach the top of the ring, a recess, O, is introduced in the interior of the ring with the view of causing the jaws to hook in such cases into the recess instead. The ring must be firmly fitted into the timber headgear, which may be done by attaching it to two stout baulks of timber bolted together, and hollowed out to match the external shape of the ring. In proportion to the loads the rings may have to carry, the depth of wood under the bottom ring-flange will have to be varied, and of course the timber should be made thoroughly secure, as it will have to resist the upward strain of shearing the pins (I I) off, and the downward pressure of the weight of the cage load.

The working action of the hook is very simple, the internal diameter of the ring, C, allowing the external diameter of the jaws, F F, to pass through it; the latter are pulled through by the action of the lifting rope, but the projection of the clamp, K K (which hitherto kept the upper jaws locked), now striking against the lower ring flange, are retained stationary. The continued pull of the lifting rope nevertheless pulls the hook through the ring, so shearing off the pins, I I, against the clamp, H, and the weight of the suspended cage causes the upper jaws, F F, to open, and allow the rope to go free after the upper jaws have gripped the ring, at the same time holding the cage suspended by the detaching hook.

AIR-ENGINES.—Messrs. TONGUE and BIRKBECK, of Chancery-lane, have patented (for Mr. A. K. Rider, of Walden, New York) some improvements in air-engines. The invention relates to engines which are designed to be operated by the successive compression, heating, expansion, and cooling of atmospheric air or other gaseous fluids or vapour, applied either at its normal density or at a higher or lower pressure, as desired—such air, gaseous fluid, or vapour being used continuously, and merely passing from one portion of the engine to another part thereof alternately, and requiring no renewal besides what may be necessary to supply deficiencies consequent on leakage. The engine comprises a power or working cylinder and a compression or supply cylinder, with their respective pistons, packings, connection and main or fly wheel shaft, together with a heater, regenerator, and cooler, and connecting openings or passages, which devices under different constructions, combinations, and arrangement are used in other engines of the description this invention relates to. The invention relates to certain novel constructions and combinations or arrangements of various parts of the engine, including a disposition of the compression chamber and its cooler below the air passage connecting said chambers with the heater of the power cylinder whereby the lubricant used is prevented from clogging said passage and parts connected therewith, and is collected in the bottom of the chamber. Said invention likewise comprises in combination with the power and compression cylinders and heater of the engine a regenerator composed of plates placed horizontally in the passage between said cylinder, and communicating therewith at its end for the purpose of heating and cooling the air passing from one cylinder to the other and traversing said regenerator. The invention also relates to a novel means of packing the cylinders or their pistons, whereby numerous specific advantages are obtained, and an air-engine combining increased durability with efficiency is produced.

BURNING LIME AND CEMENT.—The invention of Mr. ANANIAS SMITH, C.E., of Buffalo, U.S., consists, firstly, in a method of burning the raw material from which the lime or cement is to be produced, by subjecting the same to the action of heat produced by the active combustion of any suitable liquid fuel or vapour produced therefrom, comparatively free from sulphur, and especially (on account of its comparative cheapness) of petroleum or other allied liquid hydrocarbon, or vapour produced therefrom, associated or in combination with steam, superheated or not, and with air. Secondly, in a similarly descriptive method, but in which the quantity of either or all of the elements of combustion therein specified is controllable. And, thirdly, in apparatus in which these methods are carried into practice.

STEAM-ENGINE SLIDE VALVES.—The eccentric is, according to the invention of Mr. M. H. GERRING, of Blenheim Park, Woodstock, carried by a tubular collar surrounding the crank shaft, and embracing at one end an eccentric collar fixed on the shaft, whilst at the other end it embraces a corresponding eccentric collar, which is free to slide along the shaft, but not to turn around it. This eccentric collar has a spiral groove formed partly around its periphery, into which is received a key fast with the eccentric. The sliding collar can be shifted to and fro by means of a lever or otherwise.

GENERATING OZONE.—The invention of Mr. F. W. BARTLETT, of Buffalo, New York, relates to the employment of a glass vessel, either round or of other convenient shape, and of glass in which open glass tubes are arranged around the inside, with a flat stick of phosphorus set in each tube. In the middle of the vessel, and next to the tubes, is a hollow glass plunger, which is raised or lowered to graduate the height of the water in the tubes and bottom of the vessel. The ozone which is generated in the tubes rises into an ozone chamber attached to and above the vessel, which is constructed of wire cloth, with alkaline or other chemically prepared stuffs between said wire walls. Above this ozone chamber is preferably a dome (of glass), into which the acid and other products of the crude ozone accumulate.

RADIAL DRILLS.—Mr. T. W. BEVERLEY, of Sheffield, machinist and tool maker, has patented an invention which relates more particularly to the method of constructing the arms of radial drills, but it is also applicable to the standards or upright slides of boring machines and the girders or cross slides of planing machines and other similar purposes; and it consists essentially in constructing such arms or slides of two or more rods or bars, either hollow or solid, and of a round, square, triangular or other suitable section, and in arranging them so that they shall be supported by and slide in corresponding holes or bearings formed in suitable parts of the machine, which arrangement enables machines of this description to be more economically produced than when the ordinary flat or V shaped sliding surfaces are employed.

BENDING METAL PLATES.—Mr. TASKER, of Philadelphia, has patented an invention which consists in the first place in the combination of a revolving tapered mandrel with three or more bending rolls, which revolve in opposite directions from the movement of the mandrel, whereby they gradually bring the plate to be bent into a cylindrical form as it passes from the large end of the mandrel to its small end. The rolls are so set as to leave a space between them and the mandrel equal to the thickness of the plate. And they may be either of cylindrical or tapered form. Yet he prefers the tapered form, and arranges their large ends with the small end of the mandrel, so as to have their journals parallel with the journals of the mandrel. The invention in the second place consists in the combination of a revolving bed and a pair of feed rolls with the mandrel and bending rolls for feeding the plate to said rolls—the feed rolls being connected with the bed and turning with it. The bed, the feed rolls, and bending rolls are revolved by any suitable mechanism.

UTILISATION OF SLAG.—Mr. D. R. CADDICK, of Middlesborough, has patented some improvements in the construction of machinery for the manufacture of bricks, blocks, tiles, and other similar articles, from slag or scoria. On the outer circumference of a circular table or wheel a series of moulds are mounted between bearings so as to be capable of being turned over. The machine is placed in front of the slag hole of the blast furnace or in any suitable position, and the molten slag run into the mould in position to receive it, the circular table or wheel being revolved until each mould is filled. When the slag is sufficiently set, a key is fixed on to the end of the mould, which is elongated for that purpose, and the mould turned over thereby, so as to allow the brick or other article to drop on to a carriage for removal to the annealing or cooling sheds.

DIRECT-ACTING STEAM-PUMPS.—Mr. J. N. FLOYD, of Handsworth, has patented an invention according to which the tappet valves of steam-pumps known in commerce as "special" steam pumps are placed at each end of the body of the cylinder in a position at right angles to that in which the steam-piston moves. Each tappet-valve is placed in the steam inlet of the cylinder, the said valve also passing through the exhaust port from the plunger of the slide valve. The point of the tappet is conical and removable for repair, and the edge of the steam-piston is bevilled. As the inclined edge of the steam-piston strikes the conical end of the tappet the valve is lifted, and a rapid exhaustion, and consequently prompt action of the plunger, follows. In addition to the advantages, the ordinary auxiliary steam port is dispensed with.

HOLLOWAY'S OINTMENT—CHEST AND STOMACH COMPLAINTS.—The source and centre of almost every ailment is impurity of the blood; dislodge this poison, and disease departs. Holloway's pills exercise the inestimable power of thoroughly cleansing each component of the blood, and rendering that fluid fit to perform its important functions. They cope most successfully with chest diseases, stomach complaints, liver disorders, and many other maladies which are at certain seasons the besetting dangers of mankind in town and country. The directions for use enable everyone to regulate the operation of these pills with the greatest nicety. Chronic invalids, nervous sufferers, and all whom other treatment has failed to relieve, are respectfully invited to try Holloway's celebrated medicine which will strengthen and cure them.

FOREIGN MINING AND METALLURGY.

In the French coal trade there cannot be said to have been much improvement. There are scarcely any large orders forthcoming, and quotations are governed by small orders; they are thus contradictory and arbitrary, each coalowner fixing them very much at his own discretion. Some firms and managers in the Nord and the Pas-de-Calais announce that stocks are exhausted, and that prices are well maintained; other managers in the same district acknowledge that they are pushing forward exploratory works, so as to diminish the extraction. At St. Etienne the revival in affairs which has been so long talked of can still be scarcely said to be a realised fact; neither is it likely to be witnessed to any extent in the present state of the English and Belgian coal trades. Quotations have remained at much the same level upon the Paris coal market. Hopes are entertained that the Universal Exhibition to be held at Paris in 1878 will have a good effect upon the French coal trade, and it appears probable that this will be the case; all industries will profit from this exhibition, and the coal trade must also be a gainer, since coal is now the basis of almost all industries. The dividend of the Grand' Combe Mines Company for 1875 is announced at the rate of 4*l.* per share; half this dividend is payable June 15, and the remaining half Dec. 15.

Chilian copper, in bars, has made 85*l.* per ton at Paris; ditto, ordinary descriptions, 83*l.* per ton; ditto, in ingots, 86*l.* per ton; English tough cake, 86*l.* per ton; and pure Corocoro minerals, 83*l.* per ton—with delivery at Havre. At Rotterdam, Drontheim has made 50 fls. to 52 fls. Banca tin, delivered at Havre or Paris, has brought 88*l.* per ton; Straits ditto, 78*l.* 6s. per ton; and English, delivered at Havre or Rouen, 78*l.* 12s. per ton. At Rotterdam, Banca has made 49 fls.; and Billiton, 43¼ fls. French lead, delivered at Paris, has been quoted 22*l.* 4s.; Spanish, delivered at Havre, 22*l.*; English, ditto, 21*l.* 16s.; and Belgian and German, delivered at Paris, 22*l.* 12s. per ton. Upon the Paris zinc market, Silesian, delivered at Havre, has made 25*l.* 12s.; ditto, other good marks, delivered at Havre, 25*l.* 4s. per ton. At Marseilles, Vieille Montagne zinc, in sheets, has been quoted at 31*l.* 4s. per ton.

The Brussels metallurgical bourse has been well attended of late, but no great amount of business has been done upon it. The market exhibits, in fact, a want of activity; enquiries on the part of probable intending purchasers do not make default, but orders calculated to assure the future are still lacking. It appears from official returns that in the first three months of this year Belgium imported 1110 tons of steel in bars, sheets, or wire, against 1117 tons in the corresponding period of 1875, and 3224 tons in the corresponding period of 1874. The imports of steel into Belgium have thus fallen off to the extent of about 66 per cent. this year. Iron minerals and limailles were imported into Belgium in the first three months of this year to the extent of 165,200 tons, against 188,700 tons in the corresponding period of 1875, and 139,000 tons in the corresponding period of 1874. The greater part of the iron minerals imported into Belgium this year came from the Grand Duchy of Luxembourg. Rough pig and old iron was imported into Belgium in the first three months of this year to the extent of 56,000 tons, against 39,000 tons in the corresponding period of 1875, and 34,000 tons in the corresponding period of 1874. The exports of steel from Belgium in the first quarter of this year amounted to 566 tons, against 720 tons in the corresponding period of 1875, and 356 tons in the corresponding period of 1874. Russia has been the principal customer of Belgium this year for steel, having taken in March alone 250 tons. Belgium exported in the first three months of this year 32,000 tons of iron minerals and lemailles, against 39,000 tons in the corresponding period of 1875, and 16,000 tons in the corresponding period of the year 1874. Rough pig and old iron was exported from Belgium in the first quarter of this year to the extent of 3500 tons, against 3600 tons in the corresponding period of 1875, and 4800 tons in the corresponding period of 1874. Other descriptions of iron—wire, rails, plates, &c.—were exported from Belgium in the first three months of this year to the extent of 46,000 tons, against 47,000 tons in the corresponding period of 1875, and 56,200 tons in the corresponding period of 1874. The dividend of the Vieille Montagne Zinc Mines and Foundries Company for 1875 has been fixed at 8s. per tenth share.

The real value of the revival recently talked of as having occurred in the French iron trade is now beginning to be appreciated. There have been, as is usually the case, a certain number of spring orders, but they cannot be said to contain the elements of any serious improvement in affairs. The reaction from the slenderly supported hopes conceived has now come, and the discouragement prevailing has been exaggerated in consequence. Orders on account of the Universal Exhibition, to be held at Paris in 1878, will, however, it is hoped compensate in some measure for the sacrifices involved by the increased use of steel, and the consequent check in the demand for iron. Prices have been pretty well supported upon the Paris iron market, and some hopes are entertained of an improvement in the Parisian building trade; should these hopes be realised the French metallurgical interest must be benefited to some extent. The Municipal Council of Paris has decided to continue the Avenue de l'Opera, and to commence certain great public works on the occasion of the Exhibition of 1878; the Parisian building interest must profit from this. The directors of the Paris, Lyons, and Mediterranean Railway report that the average cost of the coal consumed last year upon the old network of that system was 1*l.* 5s. per ton.

The Belgian coal trade continues dull, and there is comparatively little business passing. Belgian coalowners naturally complain a good deal of the state of affairs, of which no favourable solution can be at present discerned. Considerable—in fact, increasingly considerable—imports of foreign coal continue to be made, and this fact has a tendency to further depress prices. The quantity of coal imported into Belgium in the first three months of this year from Prussia, the Low Countries, England, and France, was 184,000 tons, while in the corresponding period of 1875, those countries only sent Belgium 157,000 tons, and in the corresponding period of 1874, 89,000 tons. The imports are thus shown to have increased to the extent of about 100 per cent. during the last two years. The imports of coke into Belgium in the first quarter of this year were 4200 tons, as compared with 3900 tons in the corresponding quarter of 1875, and 1100 tons in the corresponding quarter of 1874. While the imports of coal and coke into Belgium are thus increasing, the exports, on the contrary, are declining. Thus, in the first three months of this year coal was exported from Belgium to the extent of 819,000 tons, against 876,000 tons in the corresponding period of 1875, and 698,000 tons in the corresponding period of 1874. The exports in March were 246,000 tons, against 316,000 tons in March, 1875, and 277,000 tons in March, 1874.

A significant fact is mentioned by the *Times*. One of our leading railway companies has, it is stated, just entered into a contract for a supply of steel rails with the Prussian firm of Messrs. Krupp and Co.

A New York paper has an article upon the decline of the imports of iron from England. Only 85 tons passed the Custom House for the first three months of the present year. The iron industry of America is said to be "rapidly overhauling" that of Great Britain.

MINING IN BUTTE.—Within the past five years the attention of capitalists has been turned to this county, with a view of developing the many rich placer mines that are everywhere throughout the foothills to be found. For years these rich placers were known. In some instances the ground was taken up, and after a time the owners disappeared and were not heard of for years, and only returned when they had succeed in inducing capital to take hold with them. One case has just come under our notice. We refer to James L. Pond, who some 20 years ago was a resident of this town, doing business here. Then it was almost a daily occurrence for parties to come in from Magalia, loaded down with belts filled with lumps of gold. Many a one looked to this field as the richest to be found in this part of the state. Let the miner burrow anywhere into the hill sides, and he found gold. At last mining almost ceased, not because the gold had all been taken out, but because it was so difficult to get water to the claims. Each miner left with the impression that in the future he would get rich, return and open here a mine that would astonish the world. Among those that have returned to develope and open up these mines is the gentleman we have named. He brings with him one of the best surveyors that can be had, and has set him at work making the preliminary survey for a water ditch that will carry some 3000 in. He will soon have at work 150 men, and intends to have the whole completed by July 1. A large and wealthy company has been formed in London, called the Isabinda Gold Company (Limited), of which Mr. Pond is the superintendent. This same ground was being prepared last year, and some 50 men engaged for a long time in getting it into shape. Now it passes into other hands, and the working force is doubled, with every prospect, as we said before, of being ready to turn the water on by July 1.[1] Old residents of this country will recollect the rich diggins near Dogtown, now called Magalia. This is the claim referred to. It is the one that was purchased a short time ago by Mr. Pond and a Mr. Barry, of London, for $200,000.—*Mining and Scientific Press, San Francisco.*

MINING IN AUSTRALASIA—MONTHLY SUMMARY.

KURILLA.—Good solid progress is making and satisfactory results realised—not only in what is meant by the vernacular "keenly," but actual discoveries of paying lodes. In the exploratory works eastward from old engine-shaft the 15-fm. drive gave promise of future productivenes: at the 25 the lode was found to be more solid in ore, and is now being wrought at 6s. 8d. in 1*l.* by tributers, or for, in reality, about one-quarter part of the yield, and leaving three-fourths clear to the company. At the 35, the lowest level from which the water is drained, the lode is still richer. We saw a pile of ore, just sampled for purchase, of about 40 tons of over 20 per cent., the result of 6 fms. displaced vein stuff, or a money value of 70*l.* per fathom, and the vein still holds good. We also saw over 40 tons of green and grey ore—also just sampled—averaging about 18 per cent. of fine copper. Besides there are about 100 tons of ore being dressed for the market. A new engine-shaft is being put down on Morphett's lode to enable the company to explore that lode at greater depth. So far the lode has paid for all labour bestowed on it and left 30 per cent. to the good. We may say that at no past time since we have known the property to have such signs of ultimate success presented as now. Evidently had the means been at hand and the same skill brought to bear on it as now the Kurilla might have long ago occupied a position among our dividend mines. But better late than never.—*South Australian Register*, March 24.

GOLD.—We have not had much news from the Northern Territory gold mines during the past month, but some of the reef claims are being worked with satisfactory results. A number of Queensland miners of experience have left, and others intend to leave, because they are dissatisfied with our mining regulations, which they assert encourage monopoly, and keep large quantities of valuable ground unworked and closed against the *bona fide* digger. Some of the alluvial diggings are turning out well, though limited in extent. A digger at Howley Creek obtained by his own exertions 150 ozs. of gold in three weeks. A specimen containing 13 ozs. of the precious metal has been picked up at Sandy Creek. In South Australia proper the attention of persons interested in gold mining has been divided between Humbug Scrub and the Waukaringa district. At the former locality the Lady Alice has been lately disappointing shareholders. There was according to the balance sheet made up to Feb. 21, a balance of over 1000*l.* on the wrong side of the profit and loss account, allowing for the dividend. There was, however, a balance of 4662*l.* 4s. 11d. assets over liabilities. Altogether 3774 ozs. of gold and 95 tons of copper ore had been obtained from the mine. Since then there have been three crushings, yielding 202 ozs. of gold, and 6 tons of copper ore. About a fortnight ago a fine parcel of gold was received in Adelaide from the Alma Reef at Waukaringa. The rough weight was 290 ozs. of partly retorted and partly refined gold. The net weight of refined gold will probably be fully 240 ozs., worth at least 1130*l.* It is just a month since the last parcel of 120 ozs. was received. The reef is both large and rich, and such returns speak volumes for the value of the property. On the Balaklava claims rich gold-bearing stone has been taken from the reef at a depth of 130 ft.

COPPER.—Among copper mines the Moonta well maintains its pre eminence, and is yielding large quantities of ore. It has paid a dividend during the month, as its forerunner in cuperous discovery on Yorke's Peninsula has also done. We refer to the Old Wallaroo Mines, which have been worked to such profit of late as to warrant the directors in declaring a dividend of 100*l.* per share. Rich ground is being mined in the Hamley, and this property has resumed its position as a dividend payer. The Paramatta is being worked vigorously, and the captain is sanguine of a great improvement in the mine—a lode of 25 per cent. ore having been recently met with. The Devon Consols is improving. Paying lodes are being discovered in the Kurilla, which is getting rich at lower depths, and recently there were about 180 tons on the surface.

BURRA BURRA.—We give at length the following report, dated March 20, from Capt. Sanders, on the different points of operation in the underground workings at the mine:—Good progress is being made in sinking Morphett's shaft. About 8 ft. have been sunk during last four weeks: more would have been done but for the influx of water from the 70 north on new lode, which made it necessary to fix a larger lift at the 70. This occupied the shaftmen nearly a week, but we are now secure against a much larger influx of water. The lode in the shaft is still producing good stones of ore, but owing to the underlay the most orey part is gone out of the shaft to the eastward. Four men have been engaged cutting plat on north end of Morphett's shaft at the 70. This is necessary, not only for starting a cross-cut east towards Tinline's lode, but also to make the shaft available for hauling with skips, the former plat being on the engine side instead of hauling side of shaft. In the 70 north on new lode, 6 fms. east of old drivage, we have driven 4½ fms. north, and have a fine-looking lode: although not rich, it is producing good stones of grey ore, letting out large streams of water, and improving as we extend northward. At Waterhouse's 60 the cross cut east is in about 15 fms., letting out streams of water, so much so that the men can do but little. This is what I expected, and am glad to see, as I consider it a very good feature. I believe if we cut Tinline's lode at this level we shall divert nearly all the water from the north part of the mine through this cross-cut. The cross-cut west is in about 15 fms.; have passed through several branches of quartz from 2 to 4 ft. wide, but have seen no spots of ore as yet.—Peacock's shaft: If the old plans here are correct we should ere this have holed the 50 to the long cross-cut going from Avres' to Graves'; we are still pushing it on, and hope to hole shortly. The sinking at Bence's is rather slow, the ground being very hard; but at present it appears to be easing a little. The shaft we are sinking here is between the two deposits of ore, and we do not expect to meet with anything in the shape of ore till the shaft is down to the necessary depth—say, 22 fms.—and then cross-cut to the deposits. I see nothing particular in connection with the open work calling for special remark; everything is being pushed on as fast and as economically as we can.

New buildings are to be erected on the Moonta Mines to provide for the accomodation of a brass foundry, reverbatory furnace, &c.

A large proportion of our abundant wheat crop has been moving off during the past month, at prices which it is believed will fairly remunerate the growers. The new harbour at Port Pirie, in Spencer's Gulf, has been largely availed of for the dispatch of the grain grown in the northern areas. Those areas have produced splendid crops, and the settlers there have been well rewarded for their pluck and enterprise, in settling on a country which half a dozen years ago was only a sheep run, by the fine crops which they have reaped. We are not yet in possession of the Government statistics of the cereal produce, but the best judges think that we shall have considerably over 200,000 tons of breadstuffs for export after supplying our own wants and providing for the coming year.—*South Australian Advertiser*, March 25.

TASMANIA.—The following information is extracted from the Official Report of the Victoria Exhibition, 1875:—"The mining industry for many years past was confined to gold and coal, but during the past year tin, iron, and slate have attracted much attention. The yield of gold for the last 12 months produced by 185 persons, was—alluvial 850 ozs., quartz 3800 ozs. 14 dwts. The quantity of quartz crushed was 3452½ tons. The average yield per ton of stone was 1 oz. 5 dwts. 8½ grs. The average value of gold per once was 3*l.* 19s. 6d. for alluvial; quartz, 3*l.* 19s. 6d. The gold from Nine Mile Springs, where 2398 ozs. were produced, was valued at 4*l.* an ounce. The total value of the produce of gold for 1874 was 18,491*l.* The mineral which occupied the greatest share of attention was tin, the supply of ore being practically unlimited, and the character of the deposits at Mount Bischoff admitting of no question. The total amount of tin raised in 1874 was 490 tons, valued at 78*l.* a ton. The only locality in which silver ore has been worked in Tasmania is Penguin Creek, but at present operations have ceased. With respect to the iron resources, it is stated that a small parcel of 27½ tons of ore was sent to the United Kingdom during the 12 months. The quantity raised during the year is set down at 1400 tons; of this quantity 1000 tons were raised at Lempriere, West Tamar, and 400 tons at Lewisham. The discovery made since the beginning of the present year of a lode of bismuth is regarded as one of the most important that have yet been made, and it is alleged that if the lode should prove permanent it must become a source of considerable wealth to the colony. At present the output of Tasmanian coal is not extensive, and the island is mainly supplied from Newcastle, New South Wales, although for domestic purposes Tasmanian coal is used to a considerable extent."

NEW GOLD FIELD IN QUEENSLAND.—A Brisbane telegram says:—"Official advices, dated Junction Creek, state that Mulligan's party had arrived at Cooktown, and had discovered a new gold field. They brought in some splendid specimens, and the discovery is likely to turn out a large rich field. Good alluvial and rich reefs have been found. It is higher up than any of the present diggings, and is said to be on the Hodgkinson river, 160 miles from Cooktown. There is a good road for drays now. Mulligan's party will not disclose the whereabouts of the field until they have made their own arrangements."—*Melbourne Argus*, March 22.

AUSTRALIAN MINES.

AUSTRALIAN CENTRAL (Gold).—Mr. Gill, March 23: During the early portion of the past month mining operations were being carried on most satisfactorily and profitably; the opening up of the ground was sufficiently advanced to admit of blocking operations, and the yield of gold being obtained was fairly indicative of the paying nature of the ground we were cutting through with the various block drives. I had only just forwarded the necessary instructions to commence blocking back, when information reached me that a heavy burst of water and sand had taken place in the new ground at No. 2 jump-up; so heavy was it that in an incredible short time upwards of 1000 ft. of drives were filled with sand and debris; fortunately the burst soon exhausted itself, and the men were enabled to go below to repair damages. By dint of hard and continuous labour work was resumed in the various faces of wash dirt on the 15th, the burst taking place on the 3rd. On the 21st, I received a telegram from the mining manager that a fresh burst had broke out; this, however, from present appearance is not likely to be serious, and I trust shortly that all will be in fair working order again, and the mine yielding profitable returns. The northern portion of the present gutter, so far as we have driven, is very wide, with a splendid boulder wash, some portions of which must be very good indeed, as we have had on two occasions as much as 10 ozs. to a small machine of dirt. The best ground in the gutter appears to be confined to a width of about 80 ft; the outside poorer, but still payable. The maximum width of the gutter is about 150 ft. at present. The quartz reef mentioned in my last will be cut in the bottom level along the course of the lode, north and south, thus answering two purposes—the roughly testing it along its course, and forming a main drive as well. Should payable gold be struck in this lode thousands of tons are available at the present level; at a trifling cost it will be a valuable adjunct to the property. I have not been in a position to look for the continuation of the present gutter going south west. It is of very great importance that its source should be traced, as it is likely, when contracted, to be very rich.

ANGLO-AUSTRALIAN (Gold).—Capt. Raisbeck, March 22: Prospecting Shaft: The tributers have had three crushings from the eastern stopes; 35 tons for 4 ozs. retorted gold. The result not being satisfactory, they had two crushings of 47 tons from shallow ground south of western shaft; result, 5 ozs. 14 dwts. of retorted gold. The fact is they are merely prospecting in various shallow places with the hope of striking something payable. If we do not get something payable soon we shall have to suspend operations for want of capital. I am sorry we cannot work south in the 320, as our prospects, viewing it from Ferron's workings, are very good. Simpson's tribute, near the north boundary, have raised 79 tons of quartz during the past month, with a result of 5 ozs. 16 dwts. of retorted gold.

SCOTTISH AUSTRALIAN.—The directors have advices from Sydney dated March 18, with reports from the Lambton Colliery to the 14th of that month. The sales of coal for the month of February amounted to 15,210 tons.

PORT PHILLIP AND COLONIAL GOLD.—March 22: The quantity of quartz crushed for the four weeks ending Feb 23, was 2516 tons; pyrites treated 15 tons: total gold obtained, 821 ozs. 3 dwts., or an average per ton of 6 dwts. 12½ grs. Receipts, 3417*l.* 8s. 10d. Payments including 598*l.* were paid for firewood and timber, and 73*l.* for boring cylinder, &c.: total, 3411*l.* 5s. 2d. Profit, 6*l.* 3s. 8d., which, added to last month's balance of 1503*l.* 3s. 10d., made an available balance of 1509*l.* 7s. 6d., which was carried forward to next month's account.

YORKE PENINSULA.—The directors have advices from the committee of inspection at Adelaide, dated March 24, with reports from the Kurilla Mine to the 20th of that month. Capt. Anthony writes—"Kurilla Lode: In my last monthly report I valued the lode in the 35, east of Hall's shaft, at 6 tons of from 16 to 18 per cent. ore per fathom, but I did not feel justified in expressing a confident opinion of its continuance, as the drive was going into virgin ground. It, however, affords me much pleasure to be able to say that the whole of the lode driven though since (say) 4 fms. may be accepted at the same value, or (say) 50*l.* per fathom. The greatest width the solid ore attained was fully 3 ft., but it narrowed to 4 inches. It is now fully 1 ft. of quite solid ore of 20 per cent., and widening; driving by six men, at 10*l.* per fathom. At the 25, east of Hall's, I have intersected the north part of the lode. At the place of intersection there was a vein of rich ore 4 in. wide, but this was soon lost in driving east, and 10 ft. of poor lode was driven through, but this has given place to vein of solid ore 8 in. wide, from which, looking on the rich lode at the 35 in the same stratum, I am hopeful of good results. . . . Ten men are working on tribute at an average of 8s. 8d. in 1*l.* From the 25 fm. level a good pile of ore is being raised at a rate of tribute that is highly remunerative, and the lode at the 35 will work at considerably greater advantage when ready for stoping. In carrying out the works, while no great deposits of ore have been found, a marked improvement is observable from level to level. The back of the 15 was set to the tributers at 8s. in 1*l.*, the back of the 25 was set at 6s. 8d., and the 35 will work at 3s. in 1*l.* Following up the above works, the 45 next demands attention. . . .—Morphett's Lode: Six men are working the back of the 10 on tribute at an average of 9s. 4d. in 1*l.*—Anthony's Lode: I continue to drive the 15, west of A shaft, by two men, at 7*l.* per fathom: the lode is 1 ft. 6 in. wide, and produces occasional stones of rich green and grey ore, but we shall have to explore it at a deeper point to find the deposit first discovered at this shaft. . . —Ore Returns: Samples have been taken to-day by the agents of the Wallaroo and the English and Australian Companies from about 70 tons of excellent quality ore, (say) averaging 18 per cent. There are, further, about 90 tons of (say) 15 per cent. ore on the mine dressed and undressed. . . . In future the sales will be more regular, and will considerably increase."

FOREIGN MINES.

LINARES.—April 19: Pozo Ancho: The 100, east of Warne's engine-shaft, is opening up a good length of stoping ground, worth 1½ ton lead ore per fathom. In the same level west the lode has fallen off a little, and yields ¼ ton per fathom. The 85, west of Crosby's cross-cut, is in a very open lode, but without ore. In the 90, south of Peill's engine-shaft, the lode has been intersected, and is of a promising character, consisting of carbonate of lime, and 1 ton lead ore per fathom. The 65, west of this shaft, is in a small and poor lode. The 55, west of same shaft, is producing 1 ton per fathom. The 90, east and west of San Francisco's shaft, is in a lode worth 1 ton per fathom in each end. The lode in the 75, east of this shaft, is small, but yields 1 ton per fathom. The lode in the 65 east is improving, and produces ½ ton per fathom. In No. 206 winze, below the 65, the lode has fallen off a little, but still produces 1 ton per fathom.—Quinientos: The 90 cross-cut, south of Taylor's engine shaft, is in hard granite. The lode in the 8, west of this shaft, is letting out plenty of water, but entirely without ore. The lode in the same level east is easy for driving, and yields ½ ton per fathom. The 45, east of Cox's cross-cut, is hard for driving, and the lode very small and poor. The 60, east of Addis's shaft, is in a very open lode, containing spots of ore. The 55, east of this shaft, is opening ground, yielding 1 ton per fathom. There is nothing to value in the 55, west of Henty's shaft. The 65, west of San Carlos, is in a large and strong lode, with good stones of ore in the upper part of the end. The lode in the 80, west of this shaft, is hard and poor. The same level east is in a promising lode, worth ½ ton per fathom. The 65, east of this shaft is in a very open lode, yielding a little ore. The lode in the 45, east of Judd's shaft, is small and unproductive. The 32, north of this shaft, is in hard ground. Addis's shaft, sinking below the 65, is off the lode and in hard granite. Cicero's winze, below the 45, is in a hard poor lode. The lode in Rega's winze, below the 55, is small and unproductive. Ciro's winze, below the 45, is going down in a good shoot of ore, worth 3 tons per fathom. In Castillo's winze, below the 55, the lode has fallen off both in size and value. In Gallego's winze, below the 32, the lode is compact and regular, consisting of quartz and stones of ore, worth ½ ton per fathom.

FORTUNA.—April 19: Canada Incosa: In the 120, west of O'Shea's engine shaft, the men are still engaged in stoping over the level, in a fairly productive lode. The lode in the 110, west of Judd's shaft, is opening good ground, worth 1 ton per fathom. In the 30, east of San Carlos shaft, there is no change to report. The 40, west of Abercrombie's shaft, produces 1 ton per fathom, and the same level east ½ ton per fathom. The lode in the 60, west of San Pedro, has improved in size and appearance, and contains a little lead. The 60, east of San Frederico, is in a small and poor lode. In the 120, east of O'Shea's shaft, the men are still taking down the side of the level, in a large strong lode, worth ¾ ton per fathom. The 160, east of Addis's, is in a lode which also yields ¾ ton per fathom. The 90, east of Addis's, is still in hard ground, but the lode yields ½ ton per fm. The 80 and 90, west of Kennedy's, are without ore to value: the lode in the latter driving contains spots of lead. The lode in the 90, east of Caro's, has fallen off a little, and is now valued at 1½ ton per fathom. In the 80, east of Caro's, there is a very compact and promising lode, producing 2½ tons per fathom. In San Pedro shaft, sinking below the 60, the men are working well. Lowndes' engine-shaft, below the 90, is going down in a good lode, worth 2 tons per fathom. The lode in Garcia's winze, below ths 50, is increasing in width, and yields 1 ton per fathom.—Los Salidos Mine: The 120, west of Buenos Amigos engine-shaft, is in hard ground; the lode is small, yielding ½ ton per fathom. The 110, west of San Carlos, is in a small and regular lode, but does not contain enough ore to value. The lode in the 130, west of Morris's engine shaft, yields ½ ton per fathom. The same level east is in a small, hard, and productive lode. The 120 east is also poor, owing to the influence of a cross-course. The 110, east of San Pablo's shaft, is in a good lode, yielding 2 tons per fathom. In the 100, east of San Miguel's, the lode is small and poor. The lode in the 25, west of Swaffield's shaft, is large, producing 2 tons per fathom. The 35, west of this shaft, is in a very small lode, not containing sufficient lead to value. The 45, west of the same shaft, continues to yield 1 ton per fathom. In the 55, west of Palgrave's engine-shaft, the lode is small, and of no value. In the 65, east and west of this shaft, the lode has fallen off in value, and now produces ½ ton per fathom in each end. The lode in the 55, east of the same shaft, has improved, and yields 2 tons per fathom. In the 35 cross-cut north we have not met with anything yet. The lode in the 25, west of Palgrave's, is small and unproductive. The same level east is in a large lode, yielding ½ ton per fathom. At Buenos Amigos engine-shaft fair progress is being made in sinking below the 120. At Cox's shaft, below the 110, the men are working well, and it is expected to be down to the required depth at the end of the month. In Castro's winze, below the 45, the lode is small, and of no value. The lode in Sevio's winze, below the 100, maintains its size and value—2 tons per fathom. Maria's winze, below the 35, west of Swaffield's shaft, and in advance of the 45, is in a lode yielding 1½ ton per fathom. Oak's winze, below the 110, west of Buenos Amigos engine shaft, and in advance of the 120 fm. level, is in a lode worth 1 ton per fathom.

ALAMILLOS.—April 19: In the 60, west of San Francisco shaft, the lode has fallen off a little, and now yields 1 ton per fathom. The lode in the 40, west of San Felipe shaft, is well defined, and contains a little lead. The 50, east of La Magdalena cross-cut, is in a lode worth 1 ton per fathom. The lode in the same level west is di-ordered by a slide; the yield is ½ ton per fathom. The cross-cut in the 85, north of San Enrique shaft, has not yet intersected the lode. The lode in the 85, west of San Adriano's shaft, has much improved, and yields 1 ton per fathom. In the 50, east of Cox's shaft, the lode has fallen off a little, but still yields 1½ ton per fathom. The 60, east of San Victor's engine-shaft, is in a small lode, producing spots of lead. The lode in the same level west has become productive and promising, yielding ¾ ton per fathom. The 40, west of San Carlos, is in a small poor lode. The 40, east of air shaft, is in a lode producing ½ ton per fm. In the 50, east of Crosby's shaft, the lode is small and poor. In the 50, east of Judd's engine-shaft, the lode does not contain sufficient lead to value. The same level, west of Judd's cross cut, is valueless. In the 60, east of Judd's engine shaft, lead has been met with, and the lode yields 1 ton per fathom. A further improvement is expected. The 70 cross-cut, north of Judd's, is passing through hard granite. The lode in the 30, west of adit shaft, has become unproductive. Fair progress is being made in Taylor's engine-shaft below the 85. In Abercrombie's shaft, below the 25 fathom level, the rock is favourable for sinking in. Bigge's shaft will shortly reach the required depth for a 30 fm. level. In Santo Tomas shaft, below the 25, there are small branches of lead. Reza's winze, below the 40, is being sunk through a valuable lode, yielding 1½ ton per fathom. In Figuera's winze, which will shortly communicate with the 40, the lode yields 1 ton per fm. Marto's winze below the 50 is in a hard and unproductive lode. In Losano's winze below the 50 the lode has improved a little, producing ½ ton per fathom. The lode in Fecundo's winze below the 30 contains no lead to value. In Sanchez' winze below the 25 the lode still maintains its value, which is 2 tons per fathom.

[For remainder of Foreign Mines, see to-day's Journal.]

SUCCESSFUL MINING.—The American papers state that if Mr. A. T. Stewart is no more the United States can still boast of other self-made millionaires. There is, for instance, Senator Sharon, of Nevada, a man yet in the prime of life, who is reputed to be worth 8,000,000*l.*; and close on his heels treads Mr. Jones, of the same State, whose hoard is estimated at 6,000,000*l.* These two enormous fortunes have, it would appear, been dug out of the Nevada silver mines. To the same prolific source of wealth the great San Francisco house of Flood and O'Brien is indebted for its eminent position among the plutocracy. This firm consists of four partners—Messrs. Flood, O'Brien, Mackay, and Fair. These gentlemen, who came to California "without money or friends," are the owners of "the Big Bonanza," which is computed to contain a mass of gold and silver of the value of 60,000,000*l.* Its present yield is over 500,000*l.* per month. Wonderful indeed are the stories told of these mines. One—the Consolidated Virginia—produces 600,000*l.* a month; which is, however, quite eclipsed by the Comstock, which the experts expect to turn out 15,000,000*l.* during the present year. Of the vast wealth in precious metals of the Pacific Slope we have abundant evidence, but the imagination, we suspect, has something to do with the estimates which are issued of what this or that "lode" is yielding and may be expected to yield.

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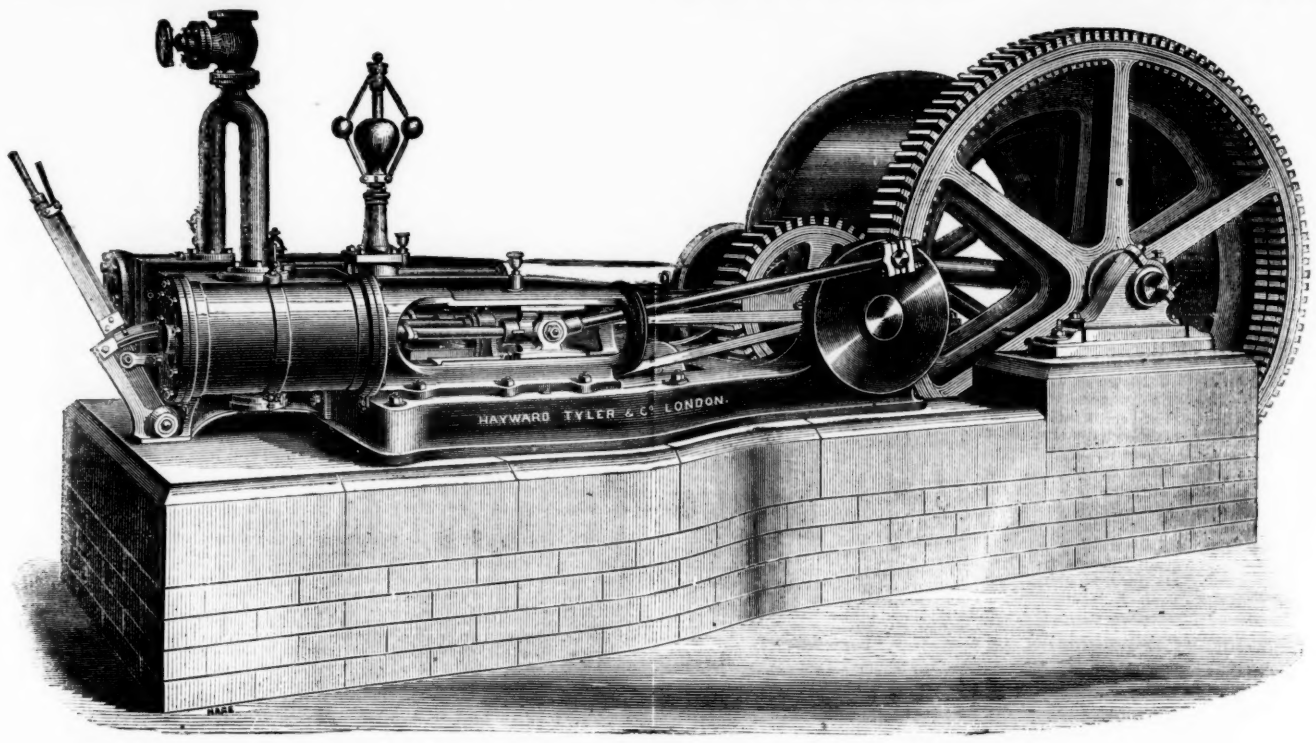

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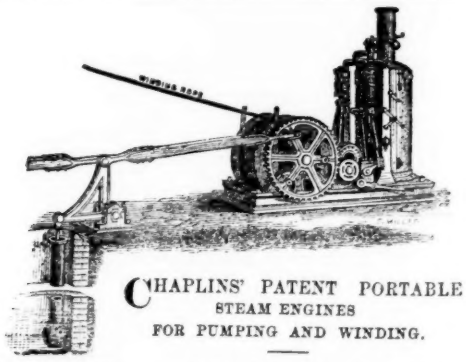

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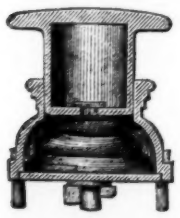

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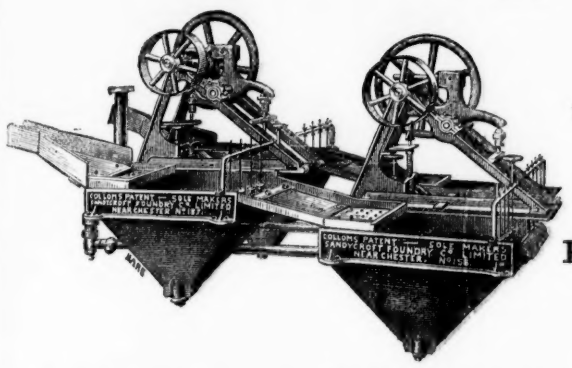

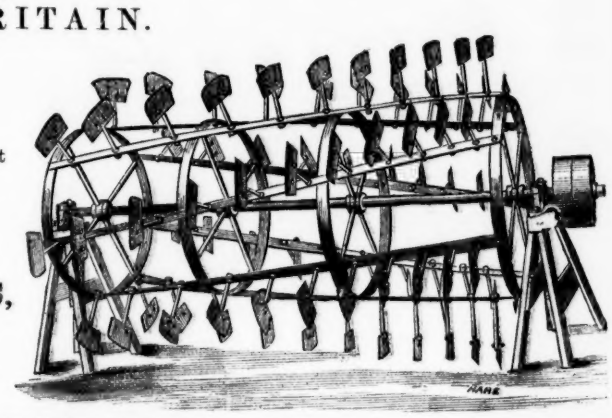

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This Company Sell or Let out on Hire their **ROCK BORING MACHINERY**, or they Contract for the Execution of Rock Excavations, such as Shafts and Tunnels, by the aid of the "Burleigh" Rock Boring Machinery.

RICHARD MOTTRAM, Secretary.

EXTRACTS FROM RECENT TESTIMONIALS.

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"The 'Burleigh' Rock Drills are working very satisfactorily, and I purpose adopting them throughout all my quarries."

A. D. URBAN, Managing Director of the Societie Anonyme of the Porphyry Quarries of Quenast.

"The 'Burleigh' Rock Drills have been in active operation for three years in these quarries, and the results obtained by their employment have been of the most satisfactory character, and they are superior to all others."

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Steam Engines

With Gear for Winding, Pumping, and Ore crushing.

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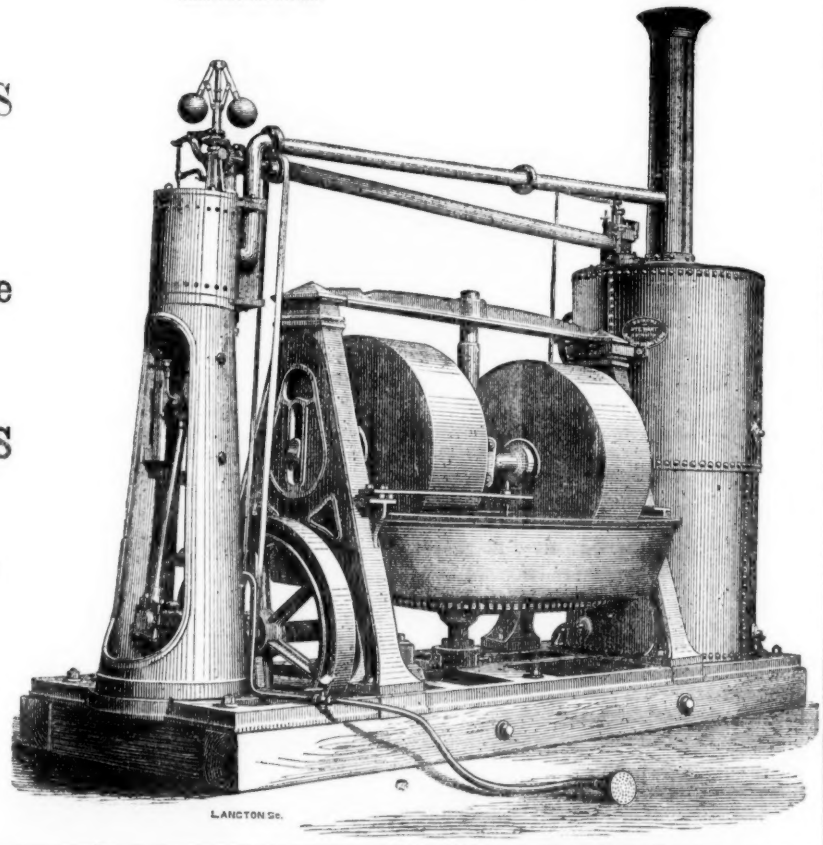

YEADON AND CO., COLLIERY & MINING ENGINEERS,

Manufacturers of WINDING, HAULING, and PUMPING ENGINES, Boilers and Fittings, Steam Piping, Donkey Pumps, Lift Pumps, Perforated Clay and Mortar Mills, Brick Presses, Pug Mills, Round and Flat Rope, Pit-head Pulleys, Wrought-iron Head Gear, ROOFS and GIRDERS, Kibbles, ONE, TWO, and THREE-DECK CAGES, COAL TIPPING and SCREENING APPARATUS, VENTILATING FANS, TUBBING, GIRDERS, PILLARS, POINT PLATES. Steam or other Cranes, Crabs and Windlasses, Machines for Cutting Stone, &c.

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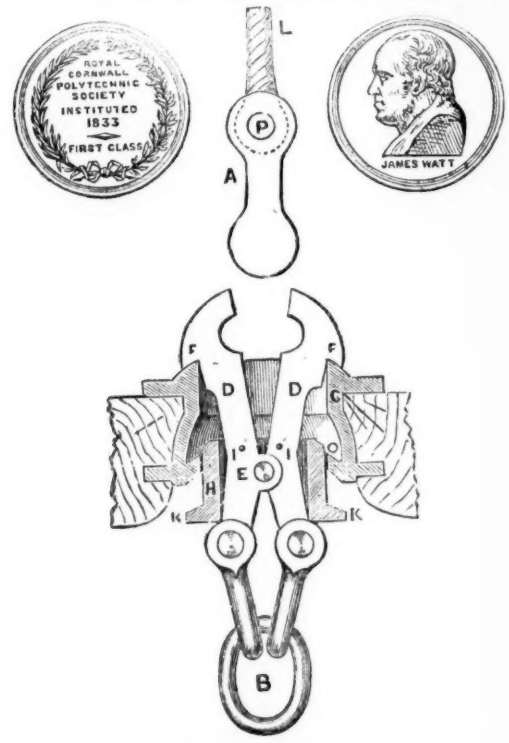
OVERWINDING IMPOSSIBLE.

WALKER'S DETACHING HOOK,

FOR COLLIERIES AND BLAST-FURNACE HOISTS.



SIX LIVES SAVED.

Walker's Hook, at Tockett's sinking, has saved six men's lives On the 6th instant, the kibble was overwound, and but for the hook would have fallen down the pit, where six men were working, 120 ft. below, all of whom would probably have been killed. Thanks, however, to Mr. Walker's invention, the rope alone passed harmlessly over, the kibble remained suspended, and in half-an-hour everything was working as if nothing had occurred.—From the *Northern Echo* August 20, 1874.

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OVER 1150 NOW IN USE.

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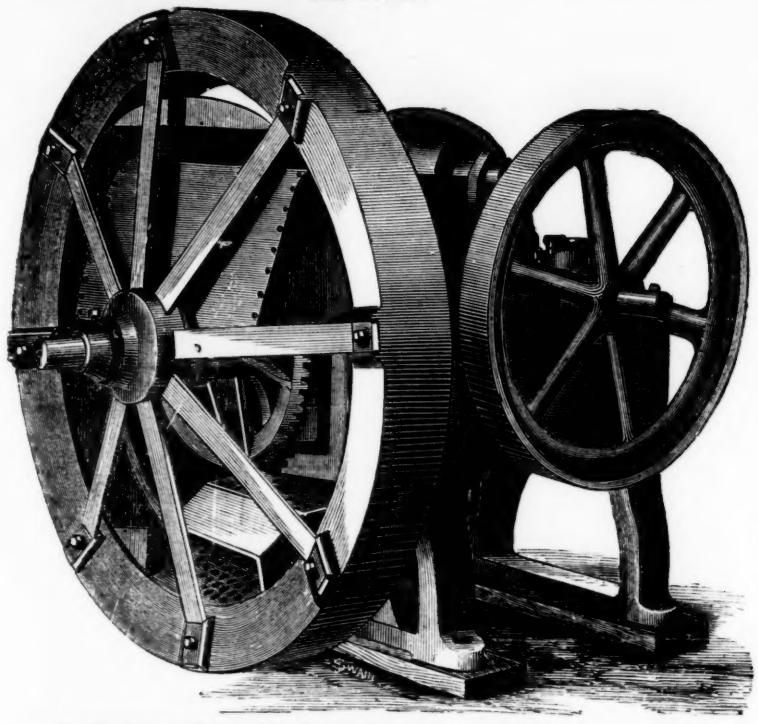

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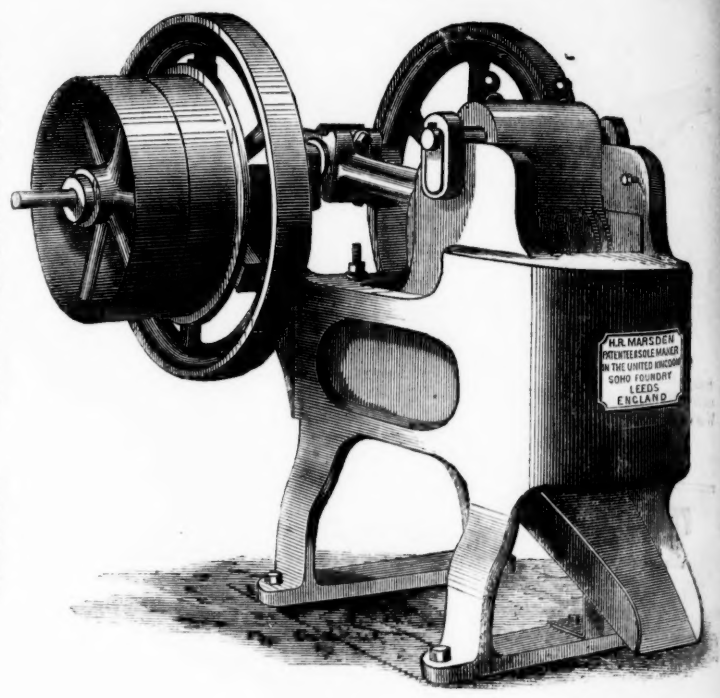

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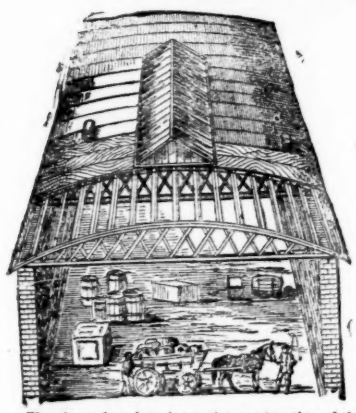

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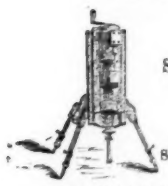

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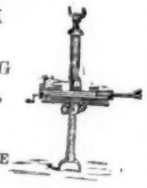

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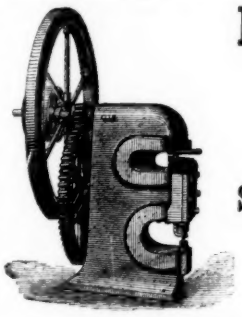

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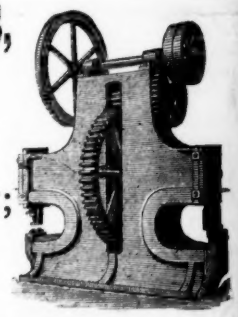

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